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MARCH 2006

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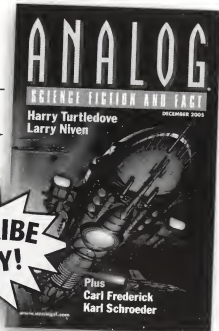
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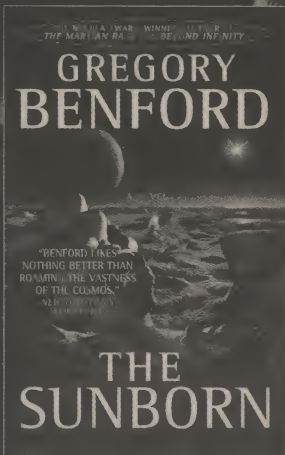
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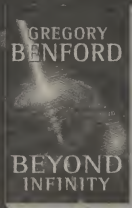
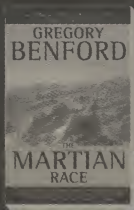
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MARCH 2006

Vol. 30 No. 3 (Whole Number 362)

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by J.K. Potter

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## SCIENCE FICTION SUDOKU

This month's editorial introduces the "Science Fiction Sudoku" puzzle. It's a brand-new kind of puzzle that evolved from the logic number-puzzle craze that has recently engulfed our planet. With the introduction of this puzzle, *Asimov's* returns to a tradition begun in the earliest years of the magazine's history. From the late seventies until the mid-eighties, we published a number of puzzles in the pages of the magazine. From the magazine's inception through 1986, the magazine carried a brainteaser by Martin Gardner in every issue. From October 1982 until January 1984, we published science fiction crossword puzzles by Merl H. Reagle, and in 1977 and 1980, we published a couple of word searches and a logic puzzle by SF author Susan Casper. In 1992, we joined Dell Magazines, the world's first crossword-magazine publisher, when we were purchased by the owners of Bantam Doubleday Dell. Coincidentally, though, I don't believe a puzzle has appeared in *Asimov's* since we became part of Dell. Recently, though, while brainstorming with my associate publisher, Chris Begley, I came up with the idea for this new puzzle. I've decided to run a couple in the open pages of this month's *Asimov's*.

The first time I ever heard about "Sudoku" puzzles was on a Sunday morning radio program. Will Shortz, the New York Times' puzzle editor, and Liane Hanson, of NPR's *Weekend Edition*, discussed the

pleasure they found in the puzzles that had recently begun appearing in the New York *Post*. The received wisdom at the time was that the puzzles had been invented in Japan (*su* is Japanese for number/digit and *doku* means single). The puzzle had made its way from Japan to England, where it was introduced to *The Times* of London by a retired New Zealand judge named Wayne Gould. It then spread to other parts of the world.

I first encountered the puzzles while vacationing in England this summer. I found the puzzle in an English newspaper and was an immediate convert to the craze. As *The Times* of London says, "Sudoku is dangerous stuff." Family and work obligations faded as I attempted to resolve more and more fiendish puzzles. Like any fanatic, it was hard for me to understand why others might not share this passion. Yet, in some dim rational corner of my mind, I thought it unlikely that I'd come up with a good enough reason to inflict the puzzles on the SF public.

Upon returning to the United States, it occurred to me that my own parent company must surely have made a foray into the Sudoku market. I went down the hall to Dell's Editor-in-Chief, Abby Meyer Taylor, to see if I could pick up a freebie, and there I made an amazing discovery. Abby told me that Sudoku puzzles were actually first published by Dell Magazines in 1979. According to Will Shortz, the

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puzzles were probably invented by Howard Garns, a retired architect and frequent contributor to Dell, who died in 1989. The Dell puzzle was called "The Number Place." It was picked up, with a couple of modifications, by an editor of Japan's Nikoli puzzle magazines in the eighties, and, eventually, retitled "Sudoku." My company *was* about to release three new magazines—*Dell Original Sudoku*, *PennyPress Easy Sudoku*, and *Dell Extreme Sudoku*. Fortunately, I was able to cadge a copy of the highly coveted first issue of *Original Sudoku* off Abby.

The traditional Sudoku puzzle is a logic puzzle without words. Sudoku usually uses the numbers 1 through 9 in a nine times nine grid of eighty-one boxes. To solve a Sudoku puzzle, you place a number into each box so that each row across, each column down, and each small nine-box square within

the larger diagram (there are nine of these) will contain every number 1 through 9. In other words, no number will appear more than once in any row, column, or smaller nine-box square. The solution is determined through logic and the process of elimination. A puzzle exists that uses letters instead of numbers, and I've modified that puzzle further by adding a science fiction theme.

Our first SF Sudoku puzzle uses the letters "AEFGIMNSZ." Although given to you in alphabetical order, when one letter is doubled, these letters can be rearranged to spell out a ten-letter science fiction phrase. I've set up the blanks for the phrase for you under the grid below, and filled in the one duplicate letter. The anagram and the grid can each be solved independent of the other. When the grid is completed, each unique letter will appear nine times. As with the

N	A			M		Z		
S	G		F			I		
I							A	S
		F		I			G	
Z			E	F	S			N
	I			Z		E		
F	N							A
		S			G		N	I
		A		N			Z	M

— — — — — A — — — — —

number grid, no letter will be duplicated in any row, column, or smaller nine-box square. Be sure to use logic and a pencil and not to guess. Unlike crossword puzzles, Sudoku does not forgive mistakes easily. If you don't catch an error immediately, you may have to redo the entire puzzle. The answers to the first puzzle appear on page 141.

The second puzzle is a little more complicated. The grid uses the following letters: ADEHKNSTU. With a duplicated "E" and "N," they make up an anagram of a science fiction novel by someone associated with this magazine. The title of the book is three words long. When finished, it will fill up the following \_ \_ E \_ \_ \_ \_ \_ \_ \_ N. Again, I've placed the duplicate letters ahead of time, so all you have to do is place the nine unique letters to come up with the book's title.

Once you've filled in the grid and figured out the name of the novel,

send us the book's title along with suggestions for future science fiction Sudoku puzzles based on SF authors' names, books, movies, story titles, or SF phrases. You can write to us at Asimov's Puzzle Contest, 475 Park Avenue South, New York NY 10016, or email us at [asimovs@dellmagazines.com](mailto:asimovs@dellmagazines.com). Be sure to put "Puzzle Contest" in the subject line. The authors of our favorite entries will receive an autographed copy of *Coyote Frontier* by Allen M. Steele or *Seeker* by Jack McDevitt. Don't wait too long to send in your suggestions. The answers to this month's puzzle will appear in the next issue.

I've managed to sneak in these Sudoku puzzles without stealing any space from the fiction and non-fiction scheduled for this issue. Let me know if you have fun with it. If the puzzle is popular, I'll cram some more into future free spots in the magazine. ○

N		U			T	S		K
	K		A			N		
				D			U	
A	N		D					S
K	T			S			N	E
S					H		K	T
	E			A				
		N			U		D	
D		S	N			K		U

\_ \_ \_ E \_ \_ \_ \_ \_ \_ \_ N

## PLUTONIUM FOR BREAKFAST

Most discussions of the possibility of life on other worlds eventually bring in the qualifying phrase, "Life as we know it." The definition of "life" that is most commonly cited usually involves such requirements as the ability to obtain energy from an outside source for the purpose of sustaining the metabolic reactions, the ability to reproduce in order to provide replacement organisms against the day when the parent organism can no longer perform the metabolic functions, etc. The "as we know it" part provides further qualifications: life as we know it here on Earth, it is generally said, exists within thus-and-so temperature range (from something above freezing to something below boiling) on a planet where water is widely available and which has an atmosphere made up mostly of oxygen and hydrogen. And so we think we know what life-on-Earth is: dogs and cats, squids and elephants, ferns and algae and red-wood trees, kangaroos and wombats and koalas, grasshoppers and ants and butterflies and moths, and a great many other species, including, of course, us.

When science-fiction writers set their stories on other worlds of the universe, most of the beings with which they populate those worlds are patterned after life-as-we-know-it beings of our own world: oxygen-breathers who occupy that climatic comfort zone that lies somewhere between McMurdo Sound at one extreme and Death

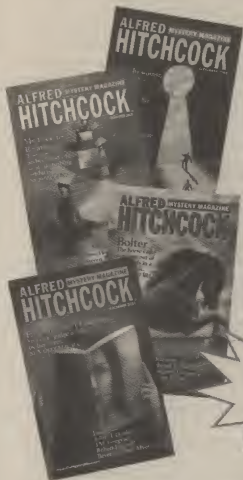
Valley at the other. That way they can insert human characters who are able to move about on those worlds without great difficulty and have the interesting adventures that science fiction stories are supposed to provide. Thus we get whale-like aliens, squid-like aliens, bear-like aliens, and a lot of aliens who are basically just human beings with corrugated foreheads. (Hello, Commander Worf!)

Of course, many science-fiction stories are populated by life as we *don't* know it—the sort of life that might be found on planets with methane-ammonia atmospheres, for example, or on planets where the gravitational pull is seven hundred times what it is here, or where the temperatures go beyond what we consider the habitable limits. I wrote a story once about a species native to Pluto whose blood is the superconductive fluid we call Helium II. The temperature on Pluto is just a couple of degrees above absolute zero, which is fine for creatures with a superconductive metabolic system, but when the sun comes up and the temperatures rise five or six degrees they have to go dormant until that nice superconductive chill returns. And so on, literally ad infinitum: science-fiction writers have invented a vast and ingenious multitude of peculiar critters that live in uncomfortable places.

All well and good, but I want to return today to our own planet, and that convenient phrase, "life as

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we know it," so that I can point out that a great many organisms native to this very world do not fall into that category at all—are, in fact, as alien as anything Frank Herbert or E.E. "Doc" Smith or Hal Clement ever conjured up.

The first ones that come to mind are the anaerobes: primitive creatures, mainly bacteria but nothing more complex than worms, for whom oxygen is poisonous. This unfortunate trait makes life on Earth difficult for anaerobes, of course, because oxygen is practically everywhere; but they have, nevertheless, managed to find niches for themselves in certain very bleak soils and in oceanic mud, among other disagreeable places. There they conduct their miserable little lives, absorbing such foodstuffs as they are able to metabolize in the absence of oxygen, deriving energy from them, and carrying out their reproductive processes in order to bring forth new generations of anaerobes upon the face of the Earth.

Since Earth is an oxygen-rich planet, what are these creatures doing here at all? One theory is that they are degenerate forms of normal oxygen-loving species that were modified by evolutionary pressures to live in oxygen-poor environments and eventually in environments that had no oxygen whatever. That makes some sense, at least to those of us who put credence in Darwinian theory. (This magazine has some readers of the other kind, as I have discovered by getting irate letters from them.) But in 1927 the brilliant biologist J.B.S. Haldane proposed a far more ingenious explanation for the existence of anaerobic organisms: the original atmospheric mix of most planets, he suggested, is mostly hydrogen, am-

monia, and methane, and the development of an oxygen-based atmosphere on our world was a relatively late event, the result of the breakdown of the primordial methane and ammonia into carbon, hydrogen, and nitrogen through the action of ultraviolet light from the sun, and the release of oxygen through photosynthesis once chlorophyll-bearing plants evolved. Therefore, Haldane suggested, anaerobic life-forms would have been the default mode on Earth until an oxygen atmosphere appeared. At that point aerobic life began to evolve, and the anaerobic beings that survive today are surviving vestiges of that long-vanished oxygen-free world of Earth's early days.

These oxygen-shunning inhabitants of Earth seem almost ordinary, however, compared with some of the *really* strange items with which we share our planet—beings that routinely put up with such hostile living conditions that they seem to have wandered into our world out of the pages of this magazine. *Extremophiles* is what scientists call them.

Let's take a look at a few.

Here, for example, is *Deinococcus radiodurans*, a small pink organism that has been nicknamed "Conan the Bacterium." Scientists who were experimenting with the use of hard radiation as a food preservative in 1956 noticed an odd bulge in one of their experimental cans of horsemeat, and when they opened it they found that a colony of unfamiliar pink bacteria had established itself inside. *Deinococcus* wasn't simply untroubled by the radiation that was bombarding it; it seemed to *thrive* on it, as Popeye the Sailor does on spinach.

Where did this hardy little bug

come from? Some theorists suggested that it had drifted in from space, where radiation levels are far higher than they are on Earth. Others offered a version of the old Haldane notion: in its earliest days, they said, the Earth had been highly radioactive, and *Deinococcus* was a survivor of that primeval era. The issue remains unresolved.

But here was a creature, anyway, that had an astonishingly high tolerance for radiation. Perhaps, it was suggested, Conan the Bacterium could be put to work devouring nuclear waste, of which a vast amount has been piling up at our various atomic plants. Unfortunately, though it had no trouble with hard radiation, it was unable to cope with such toxic chemicals as toluene that are usually found in nuclear waste. And so, in 1997, Department of Energy researchers produced "Super Conan," a genetically modified super-*Deinococcus* that eats vile chemicals just as casually as it does the hard stuff. So far, though, Super Conan has not been released into the environment, because no one is sure what else it might eat, and the current public attitude toward genetically modified organisms is not supportive of indiscriminate distribution of such entities.

An even more awesome extremophile is *Kineococcus radiotolerans*, well named, for it is radiotolerant indeed. This one turned up at the Department of Energy's Savannah River Site in South Carolina, once used in the production of hydrogen bombs, where an awkward quantity of radioactive waste has piled up—thirty-five million gallons of it in forty-nine underground storage tanks of uncertain sturdiness. The conventional way of getting rid of this stuff, involving chemical treatments administered by robots, might cost as much as \$260 billion. About a decade ago Savannah Site researchers who were looking for some cheaper way of detoxifying the place noticed a slimy substance growing on the end of a rod in one of the tanks of nuclear waste, extracted it using robot arms, and discovered it to be a clump of bacteria capable of withstanding a dose of radiation fifteen times as strong as one that would be fatal to humans.

Not only is *Kineococcus* happy to make its home in a hellish brew of radioactives that would melt kryptonite, but further experimentation has shown it to be willing and able to feed on industrial solvents, herbicides, chlorinated compounds, and a great many other toxic chemicals,

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breaking their toxic components down and rendering them harmless. The Savannah Site scientists are now considering breeding *Kineococcus* in quantity and injecting it into the tanks of nuclear waste and also into the areas around the Hanford, Washington, nuclear plant where leaking storage tanks have contaminated eighty square miles with radioactivity.

Not immediately, of course. Caution prevails. One might think that an environment populated by *Kineococcus* could only be an improvement on one full of radioactivity. But one never knows. At the moment, 20 percent of the bacterium's genetic structure involves "unknown functions," say the researchers, and they want to know more about those before whipping up any substantial supply of the microbe.

How these creatures survive in such unforgiving environments is still pretty much of a mystery. A good jolt of radiation smashes up their genetic structures the same way it would smash up yours or mine, but the big difference is that extremophiles somehow put themselves back together within a few hours.

For those of us—a large majority of the population, I would guess—who are not charmed by the presence of deposits of toxic wastes among us, these hardy microbes hold out hope of eventual cleanup

with a minimum of noise and fuss, and at relatively little expense. But the existence of extremophiles sends a second message that's of particular interest to science fiction readers. It's a message about the adaptability and durability of living things. (Other extremophiles are found in the chilly plains of Antarctica, on mountain peaks, within volcanoes, and in the depths of the sea.) We live in a huge universe full of worlds, and most of those worlds, very likely, offer environmental conditions very different from those of Earth. But if, here on Earth where we live life as we know it, there are extremophiles in our midst that can survive in surroundings that we would regard as unthinkable user-unfriendly, then surely those other worlds, those worlds of ammonia-methane atmosphere or 700-G gravitational pull, may well have evolved creatures just as alive as me and thee who feel totally comfortable under the alien-to-us conditions there.

Our own extremophiles are just itty-bitty bacteria. But, of course, they occupy small and very special environmental niches on our world. On another world where extreme conditions are the norm, the entire planetary population will be made up of beings who have adapted to those conditions. And my bet is that they won't just be microbes, either. ○

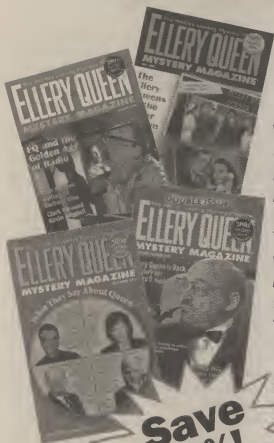
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## MORE THAN HALFWAY TO ANYWHERE

**T**here exists an unbreakable bond between space activism and science fiction fandom. Many pro-space groups were born at science fiction conventions, inspired by the genre. SF encourages space activism with stories of space travel, space settlement, and scientific discovery in general. SF Cons were and still are a great place for fans to meet, plan, discuss ideas, and form groups. These included the legendary L5 Society, National Space Society, Space Frontier Foundation, Planetary Society, Space Access Society, Artemis Project, and other groups. SF cons also allowed pro-space groups to network, grow, and get the word out about the space movement, and the importance of becoming a space faring civilization with people both living and working in space. SF literature also inspired many to become engineers, scientists, technicians, space buffs, and geeks in general. The diversity of the SF community led to the creation of numerous pro-space organizations, each with a different mission plan. (See author's note for a listing of the major pro-space societies, their web sites, and mission statements.)

Robert A. Heinlein, SF grand master, inspired generations of fans with his stories of the future. Heinlein is known for his famous proclamation, "Reach low orbit and you're halfway to anywhere in the Solar System." The point of Heinlein's maxim is that the same amount of energy it takes to go from Earth's surface to Earth orbit is roughly equivalent to

the energy required to travel from Earth orbit to the planets. The point is that if you can get to orbit, you have the capacity to also reach most of the solar system.

The Space Age began in 1957, when Sputnik was launched into low Earth orbit by the Soviet Union. This fueled a space race between the United States and USSR, culminating with the US landing on the Moon in July 1969. Since 1957, every astronaut or cosmonaut launched into space has flown on government rockets. In 1996, tired of waiting for governments to complete the vision of man living and working in space, the Ansari X-Prize Foundation <<http://www.xprizefoundation.com>> offered \$10,000,000.00US to the first private company to create a rocket that could reach sub-orbital space and successfully repeat the process. The X-Prize Foundation was inspired by the Orteig Prize that Charles Lindbergh won in 1927 by successfully flying solo across the Atlantic Ocean. Cash prizes have been used throughout history to encourage the development of new and innovative naval, flight, and other technology, and space may be following a similar path.

### The Winner of the X-Prize

In 2004, the first civilian astronaut flew a privately built spacecraft to sub-orbital space, and we got a lot closer to achieving the goal of a space faring civilization, and a private company called Scaled Compos-

ites, LLC <[www.scaled.com](http://www.scaled.com)> won the ten million dollar Ansari X-Prize doing it. Scaled Composites was started by Burt Rutan, a near legendary experimental aircraft designer and pilot. The company was also heavily backed by Paul Allen, a co-founder of Microsoft Corporation. On October 4, 2004, Scaled Composites won the X-Prize by being the first private company to fly a manned spacecraft to an altitude of 328,000 feet twice within a fourteen day period. The first flight was flown by Mike Melvill, who holds the honor of being the first civilian astronaut to go to space. For the second flight, Brian Binnie was at the helm, making the all important repeat flight to clinch the coveted X-Prize.

Mike Melvill has the right stuff, like the NASA astronauts of legend. But like all true heroes, he is the first to deny it. Melvill is a member of the Society of Experimental Test Pilots, and has won their top award twice. When asked how he became interested in flying and space travel, he tells a tale that many science fiction fans can identify with. "I, like you, watched Neil Armstrong and Buzz Aldrin walk on the Moon, and was lucky enough to meet those guys, so they've been a great inspiration to me."

While working for a company that made cardboard box manufacturing equipment, Melvill convinced his bosses to send him to flight school in order to reduce the cost of his frequent flights around the country on commercial airliners. But his first flying lessons were far from successful. "I had a lot of trouble in the beginning. My first lesson was only ten minutes long, and then I threw up, and we had to land. My second lesson wasn't much better, lasting about fifteen minutes before I threw up again."

But Melvill didn't give up, sticking to his guns, smiling about how his instructor helped him cure his weak stomach. "Ultimately, my instructor said this was ridiculous. You're not getting anything done. I'll take over the controls. Go open the door and throw up, and then we'll continue with the lesson." Melvill laughs when telling the story, and how he finally got his unruly stomach under control standing in front of an open airplane door several thousand feet off the ground while the air roared by, heaving up his guts. "You can't make me sick in an airplane anymore, not after that."

Melvill went on to earn both a private and commercial pilot's license. His love for flying increased and he wanted to share the thrill with his family. "It's very expensive to rent a plane, so we couldn't afford to fly very often." This led Melvill to build his own plane, leading him to Burt Rutan, and eventually his current plum assignment at Scaled Composites.

The two men first met at the yearly convention of the Experimental Aircraft Association (EAA) Fly-In in Oshkosh, Wisconsin. "I went because someone told me that you could build a plane for a lot less than buying one, so I headed to the convention to see what was available." Melvill chose a set of plans from Burt Rutan, taking the plans back home, building the flyer in his workshop. "I was actually the first guy to complete one of Burt's planes, mainly because I had the resources of a machine shop, and had been communicating with Burt by phone and by mail."

Once the home built plane was complete, Burt invited Melvill to his shop at the Rutan Aircraft Factory in Mojave. He helped Melvill flight test the new aircraft, and become familiar with its performance capabili-

ty. "Burt put me in the back seat of an identical plane. First, he flew around the field, showing me how the aircraft handled. Then he put me in the front seat, letting me fly it around, and then he got out and let me solo." This gave Melvill the experience to go back home and have a successful first flight with his newly built aircraft.

Melvill flew his newly built plane on company junkets, taking it to service clients in several states. On the return leg of one business trip, he flew the plane to Rutan's Factory, letting the designer see the finished product. "When Burt saw the plane, he offered me a job right then and there." Melvill speaks proudly, "I've worked for Burt since 1978, and watched the company grow over time. We developed a lot of different airplanes together, and he thought that I had a talent for flight testing."

When Rutan started Scaled Composites, he left Melvill in charge of the Rutan Aircraft Factory, further cementing their relationship. "We ran RAF for about a year, until Burt closed it down, then he brought us over to Scaled Composites." At Scaled, Melvill did the bulk of flight testing for the new startup, doing the first flights for ten of Rutan's new designs. At the time of this writing, Melvill is currently a partner in Scaled Composites, and its general manager. Under Rutan and Melvill, the company has grown to employ 140 people.

Rutan has a reputation for designing airframes that push the envelope, and one day he approached Melvill with the dream of a lifetime, about building a lightweight craft that could reach into space. The vehicle would not be capable of reaching orbital velocity, but would be powerful enough to fly to about sev-

enty miles altitude, a region considered space according to the rule books, an achievement that so far had not been accomplished by a private company. "I honestly thought he'd lost his mind at that point, as that seemed like such a huge leap for us to take."

Rutan had successfully designed, built, and flown many innovative and lightweight aircraft, but this was a quantum leap ahead of anything else they had done in the past. It took Rutan five years to develop the design of the new system, thinking of all the possible ways to get the mission done, everything from launch to re-entry.

Rutan developed a two-stage system to get the prototype vehicle SpaceShipOne off the ground and into space. The first stage was not a rocket, but a plane called the White Knight. The White Knight has a wingspan of about ninety feet, and is powered by two engines from a T38 jet. The mid-section of White Knight's fuselage is high off the ground so that it can carry another smaller craft, SpaceShipOne. The White Knight is analogous to the first stage of a rocket assembly, and only exists to carry SpaceShipOne to fifty thousand feet altitude, drop her, and then land back on the runway. Once the White Knight releases SpaceShipOne, she fires her rocket motor, flies to sub-orbital space, and then lands on a standard runway after the mission. Melvill speaks proudly about the concept: "SpaceShipOne works because if you launch her at fifty thousand feet, the atmosphere is very thin at that altitude. So, you can accelerate a light and relatively weak structure to high speed. The atmosphere is very thin, and you can accelerate very rapidly because you don't have as much air hammering away at the structure."

SpaceShipOne's fuselage is in the shape of a .45 caliber bullet, and is comprised of lightweight carbon fiber and epoxy. She has a twenty foot wingspan, with seating for three. The pilot sits up front, and there are two side-by-side seats in the rear for passengers. Once SpaceShipOne is dropped from the White Knight, she accelerates to mach 3.3 in about eighty seconds. The engine is then powered down, and the ship coasts to roughly seventy miles up, officially entering the bonds of space. When asked what the ride was like, Melvill smiles, "Rocket motors don't accelerate gently. They're either on or off, and when they're on, they're running full blast!"

Rutan also developed a unique solution to the tremendous heat created by atmospheric friction when re-entering the Earth's atmosphere. Rather than using a heat shield, such as the system of tiles used on the Space Shuttle, SpaceShipOne's wings and tail section fold forward to create drag to slow the ship. "It's like a badminton shuttlecock that falls to ground very slowly." During the re-entry phase of the flight, SpaceShipOne functions like a glider, similar to the Space Shuttle, but much lighter, and is brought to a landing on a conventional runway.

Melvill was determined to come back from the flight with undisputable video footage to prove that SpaceShipOne had actually reached all the way to space, and that he was in free-fall. Acting on the premise that it might be easier to get forgiveness rather than permission, he came up with an interesting idea, one that NASA astronaut John Young could not fail to be proud of. For the record, Young, an astronaut who walked on the moon and flew the first Space Shuttle flight, is also

known for smuggling a corned beef sandwich aboard the Gemini 3 space capsule in 1965. Young's stunt caused complete and total horror among NASA Mission Control, as engineers and scientists contemplated thousands of tiny little crumbs floating into the sensitive computers and instruments. In the spirit of John Young, Melvill opened a bag of M&Ms when SpaceShipOne attained zero gravity, causing the multi-colored candies to float around the cabin in weightlessness on camera, resembling little flying saucers, proving to all the world that the craft really was in micro gravity. "This really caught the media's attention, and I got a lot of accolades from people outside the company for doing it." But when asked how the powers that be at Scaled Composites reacted, Melvill hints that he did receive some good natured teasing from his co-workers. He got off light, though. Young's sandwich smuggling incident drew him an official reprimand from NASA, and literally launched a congressional investigation. When asked, Melvill wasn't worried about the little chocolate candies causing problems aboard SpaceShipOne, because they are easily squished. For the record, he used plain rather than peanut M&Ms for the freefall demo.

Scaled Composites plans to build a larger craft, one capable of carrying more passengers. They have teamed up with Sir Richard Branson of Virgin Atlantic Airways <[www.virginatlantic.com](http://www.virginatlantic.com)>, creating a new company, Virgin Galactic <[www.virgingalactic.com](http://www.virgingalactic.com)>, to cater to the emerging space tourism market. Melvill is confident that tourists will want to go to space for the sheer adventure, "This is a spectacular ride! You watch the blue sky turn to black. You can see the planets when you get up

there, as well as the brighter stars. The excitement of riding a rocket to space is incomparable!" At the time of this writing, Virgin Galactic has thirteen thousand tourists signed up to take a ride to space for the sum of one hundred ninety thousand dollars per ticket.

Other private companies are hoping to follow in the footsteps of Scaled Composites. Among them, XCOR Aerospace <[www.xcor.com](http://www.xcor.com)> has built and flown the EZ-Rocket, a fast and highly maneuverable rocket-powered aircraft. The engines are fueled with isopropyl alcohol and liquid oxygen, and are environmentally friendly. XCOR is also planning to build a craft capable of reaching sub-orbital space for paying tourists in the near future, and is seeking additional funding.

Opening for business in June of 2002, SpaceX <[www.spacex.com](http://www.spacex.com)> is a private company, working on building rocket boosters that they claim will significantly lower the cost for getting to space. Their first two launchers, Falcon I and Falcon V, are mostly re-useable rockets, capable of lofting 670 kg or 6,020 kg respectively into low Earth orbit. The company hopes to use their rocket boosters to launch satellites and other payloads into space at a profit.

Other competitors in this new private sector space race come from all over the map and include Armadillo Aerospace <<http://www.armadilloaerospace.com>,> a small company building a computer controlled rocket called the Black Armadillo. The current design of the craft carries no passengers, but the development team plans to build a manned version in the future. Canadian Arrow <[www.canadianarrow.com](http://www.canadianarrow.com)> is taking a "don't reinvent the wheel" approach. They are resurrecting the

German V2 Rocket technology for peaceful purposes to send paying passengers into space. The da Vinci Project <[www.davinciproject.com](http://www.davinciproject.com)> is one of the most unconventional space launch companies. They plan to use a reusable balloon to carry their Wild Fire MKVI rocket-powered passenger craft to about twenty-five kilometers altitude, fire the engine, and boost to sub-orbital space. The company is comprised of over five hundred volunteers. Rocketplane Limited, <[www.rocketplane.com](http://www.rocketplane.com)>, is a team working on a four-seater rocket-powered airplane capable of reaching space. The plane will boost to the limits of space, spend about four minutes in zero gravity, then land on a conventional runway. Starchaser Industries <[www.star-chaser.co.uk](http://www.star-chaser.co.uk)> is a project to build a passenger-carrying rocket ship, one that takes off vertically, and then lands by parachute five miles down-range, after spending a few minutes in zero gravity at the limits of space. The designers hope to use the rocket ship to fly passengers to space for short tourist hops.

Everyone agrees that we must drastically reduce launch costs, and many believe the best way to accomplish that is to jump start the power of the private sector. The X-Prize is trying to encourage private companies to build hardware, fly it, and succeed. Some believe the government should take their lead and get out of the way, and turn loose the private sector. Allen M. Steele, a hard SF writer specializing in near-term space stories, says, "If I was a legislator, I would put together an omnibus space bill that would establish tax and commercial incentives for private space exploration. I would also ease regulations and offer seed money to new space startups."

## The X-Prize Cup

While the X-Prize may have been won, its mission is far from over. The X-Prize people aren't resting on their laurels; they plan to offer future prizes for select space achievement milestones. The X-Prize Cup will be held each year, sponsored by the X-Prize Foundation, and will continue to inspire new space technology. The ultimate goal of the X-Prize Foundation is to create new industries, not just one design or company. Diversity of ideas will give us the tools to develop new technology to get to space. It will take an entire industry to settle the Solar System, not just one company or type of craft. The X-Prize Foundation hopes to encourage the development of a self sustaining space

industry, leading ultimately to a true space-faring civilization for the Human species. It's likely that SF fans will continue to be major backers of space flight, dreaming of solar system-spanning civilizations where rockets take off and land on pillars of fire, just as, in the words of Arlan Andrews, "God and Robert Heinlein intended."○

Joe Lazzaro is a science and technology writer with publications in *Analog*, *Science Fiction Chronicle*, *Artemis*, *MIT Technology Review*, *Byte*, *The New York Times*, and other magazines. Joe has appeared on Art Bell's *Coast to Coast*, NPR, and CNN. He maintains a web site at [www.JoeLazzaro.com](http://www.JoeLazzaro.com).

## Author's Note: Pro-Space Groups

### Organization and Mission:

#### British Interplanetary Society—

The world's longest established organization devoted solely to supporting and promoting the exploration of space and astronautics.

#### L5 Society—

Build self sustaining space colonies in free space, based on Doctor Gerard O'Neill's concept.

#### National Space Institute—

To keep interest in the NASA space program alive after the end of the Apollo missions to the Moon.

#### Planetary Society—

Support and fund space research and to educate the general public about space science.

#### The Foresight Community—

While technically an organization specializing in nanotechnology, its research and potential benefits are critical for space technology.

#### National Space Society—

Promote the creation of a space faring civilization.

#### Space Frontier Foundation—

Promote access to space and the creation of a space faring civilization.

#### Mars Society—

To further the goal of the exploration and settlement of the Red Planet

#### Space Access Society—

The sole purpose is to promote routine, reliable, radically cheaper access to space, ASAP.

#### Artemis Project—

This is a commercial venture to establish a lunar colony.

#### Moon Society—

An organization that brings together individuals and organizations who want to develop the moon.

### Startup Date:

### URL:

1933

[www.bis-spaceflight.com](http://www.bis-spaceflight.com)

1975

[www.l5news.org](http://www.l5news.org)

1975

N/A

1980

[www.planetary.org](http://www.planetary.org)

1986

[www.foresight.org](http://www.foresight.org)

1987

[www.nss.org](http://www.nss.org)

1988

[www.space-frontier.org](http://www.space-frontier.org)

1988

[www.marssociety.org](http://www.marssociety.org)

1995

[www.space-access.org](http://www.space-access.org)

1995

[www.asi.org](http://www.asi.org)

2000

[www.moonsociety.org](http://www.moonsociety.org)

# THE GABBLE

Neal Asher

The curious creature that Neal Asher first introduced to *Asimov's* in "Softly Spoke the Gabbleduck" (August 2005) reappears along with a new mystery in his latest story for us. Inspiration for the gabble stemmed from some ideas first arising in his novel *The Line of Polity*, then touched on in *Brass Man*, and now being pursued in his current book project, *Polity Agent*. Neal's latest, non-gabble novel, *The Voyage of the Sable Keech* is just out from Tor. Another book, *The Engineer ReConditioned* is due out from Cosmos Books. Drop by his website <<http://freespace.virgin.net/n.asher>> for more information.

The shimmer-shield visor was the most advanced Jonas had been able to acquire. It only occasionally caught the light as if to let him know it was still there, it allowed a breath of the native air through to his face as he guided this clunky aerofan over the landscape—the breather unit only adding the extra 10 percent oxygen he required—and he could actually experience the damp mephitic smell of the swampland below. This would be the closest he could get to this world, Masada, without some direct augmentation.

Jonas looked around. The sky was a light aubergine, the nebula a static explosion across it fading now with the rise of the sun, ahead of which the gas giant Calypso was in ascent: an opalescent orb of red, gold, and green. Below him a flat plain of flute grasses was broken by muddy gullies like a cracked pastry crust over some black pie. From up here the grasses looked little different from tall reeds reaching the end of their season. The reason for their name only became evident when Jonas spotted the monitor transport and brought his aerofan down to land beside it. The grasses tilted away from the blast of the fan, skirling an unearthly chorus. The hollow stems were holed down their length where their side branches had dropped away earlier in the season. Thus each one played its own tune.

Settling on a rhizome mat, the fan spattered mud all around as it wound down to a stop. Jonas waited for that to finish before opening the safety gate and stepping down. The mat was firm under his feet—this might as well have been solid ground. He looked across. Three individuals stood in a trampled clearing, whilst a third squatted beside something on the ground. Jonas walked over, raising a hand when he recognized Monitor Mary Cole turning to glance toward him. She spoke a few quiet words to her companions, then wandered over.

"Jonas." She smiled. He rather liked her smile: there was no pretension in it, no authoritarian air behind it. She was an ECS monitor here to do a job, so she knew the extent and limitations of her power, and felt no need to belittle others. "This is not what I would call the most auspicious start to your studies here, but I knew you would be interested."

"What's this all about, Mary? I just got a message via aug to come and meet you at these coordinates to see something of interest to me."

She shrugged as they turned to walk toward the clearing. "That was from B'Tana. He likes rubbing people's noses in the rougher side of our job whenever the opportunity presents." She glanced at him. "Are you squeamish?"

"I've been working for Taxonomy as a field biologist for fifty-three years. What have you got here?"

"A corpse, or rather, some remains."

Jonas halted. "Should I be here, then?"

"Don't worry. This is not murder and you won't be bringing any contamination to a crime scene. We got everything that happened here on satellite shortly after he screamed for help over his aug."

Entering the clearing, Jonas glanced around. No doubt about what that red stuff was staining the flattened grasses and spattering nearby upright stalks. Mary held back to talk to one of her companions while Jonas walked forward to stand beside the man working with the remains. There were fragments of bone scattered all about, the shredded rags of an envirosuit, one boot. The skull lay neatly divided in half, stripped clean, sucked dry.

"May I?" Jonas asked, gesturing to the bone fragments.

The man looked up from the handheld scanner he was running over the rhizome mat. Beside him rested a tray containing a chrome aug, a wristcom and a QC hand laser—all still bloody.

"Certainly—he's past caring."

Jonas immediately nailed the forensic investigator as a Golem android. That was the way it was sometimes: a disparity between speech, breathing, movement, maybe even a lack of certain pheromones in the air. It never took him long to see through human emulation programs. He turned his attention to the fragments, squatted down, and picked one up. It was a piece of thigh bone: as if someone had marked out a small diamond on that bone, drilled closely along the markings with a three millimeter bit, down to the marrow, then chiseled the piece free.

"Hooder," he said.

"Medium sized," the Golem replied.

Jonas turned to him. "Who was this?" He nodded toward the remains.

The Golem winced and glanced toward Mary Cole, then said, "A xenologist who came here to study mud snakes. We lose between five and ten each year."

Jonas called over to Mary, "Is this what you would call an educational outing for me?"

Glancing over she said, "Jonas, you would not have been sent here if you needed that." She nodded to her companions and they headed back toward the transport, then she came over and gestured at the remains. "We get them all the time. They upload skills then come here thinking they're going to brilliantly solve all the puzzles. You, as you say, have worked for Taxonomy for fifty-three years. The maximum experiential upload is less than a year—enough for a language or some small branch of one of the sciences."

Jonas watched the Golem stand, extend the head of his scanner on a telescopic arm, and begin swinging like a metal detector.

"I upload," he observed.

"Yes, on top of your fifty-three years of experience."

"Granted," he said. "So you get a lot like this?"

"Certainly—there's a great deal here to study."

Jonas knew that. Prior to twenty years ago, this world had been Outpolity and ruled by a vicious theocracy. With the help of undercover ECS agents, rebels managed a ballot of the planetary population, the result of which was the Polity subsuming this world. But events had been somewhat complicated. During that time, some biophysicist had come here in a stolen Polity dreadnought and caused all sorts of mayhem. Jonas did not know the details—all he knew was that it had taken ECS twenty years to clear up the mess, and that some areas of the planet were still under quarantine. Also, at about the same time, one of the four spheres of a transgalactic alien bioconstruct called Dragon had arrived and suicided on the planet's surface, and, in the process, out of its mass, created a new race: dracomen. These creatures alone were worthy of centuries of study. They used direct protein replication rather than some form of DNA transcription and could mentally control their body growth and substantially alter their offspring. Their initial shape was based on a human thought-experiment: what might dinosaurs have been like if there had been no extinction and they had followed the evolutionary path of humans. But, besides these, the planet boasted much weird fauna: the tricones forever churning the soil, a multitude of herbivores, mud snakes, siluroynes, heroynes, hooders, and the decidedly strange gabbleducks. And those were only the larger wild creatures.

"Do you know if there are any instructions concerning his remains?" Jonas asked.

"We will know, soon enough," said the Golem. He was squatting down now, digging at the ground with a small trowel. After a moment he stood, holding up some item about the size of a little finger.

"Memplant?" Jonas suggested.

The Golem nodded.

Jonas turned back to Mary. "I'd like to make some recordings and measurements, and take a few samples. That okay?"

"That's fine. And if he has no special requirements concerning his physical remains I'll have Gryge," she gestured to the Golem, "box them up for you."

"And a copy of the sateye recording?"

"Certainly."

"Thanks."

Jonas headed back to the aerofan for his holocorder and sampling equipment. He did not suppose he would learn anything new here, or from the recording—it would just be more information to feed Rodol's appetite. The AI was already digesting everything the locals knew about hooders, plus twenty years of ECS data, but its hunger was never satisfied.

Shardelle noted that within the last hour another forty-three linguists had come online, but that hour had also seen off sixty-two. Their number, now standing at just over seven hundred thousand, was in steady decline in the network. Comparative analyses with just about every language on record had been made. New languages had been generated for comparison—still no joy. Syntactic programs ranging from the deeply esoteric to the plain silly had been employed, but they had not come close to cracking one word or a hint of a morpheme, of what was now being called The Gabble.

What precisely did *Yaw-craggle flog nabble goop* mean, or *Scrzzz-be-sumber fleeble*? Even the AIs seemed to be failing, and they were making comparative analyses across a huge range of data: an enormous list of environmental parameters including the creature's location, the ambient temperature, variations in air mix, what the creature was looking at, hearing, smelling, or otherwise sensing; the time of the day or night, what objects were in the sky; variations in the speakers themselves including size, sex, number of limbs and what they happened to be doing with them at the time, what had happened to them earlier. Occasionally concurrence did occur. Two gabbleducks had said *yabber*, while peering into the distance and gesturing with one clawed limb. There had been other concurrences too. But utterly bewildering was that, statistically, if the five hundred creatures under scrutiny had been generating random noise, there should be more concurrences than this. It was a maddeningly negative result. Shardelle, however, felt this was a negative that must indicate *something*.

Shardelle disconnected her aug from the linguistic network and at once her sight and hearing returned. Plumped in a comfortable chair, she glanced around inside her ATV, but inevitably her gaze centered on the screen that was presently showing the view from holocam 107. This one was her favorite gabbleduck—the biggest and weirdest of them all. The creature was sitting in a stand of flute grass and in this pose its body was pyramidal. Its three pairs of forelimbs were folded monkishly over the jut of its lower torso, one fore-talon of one huge black claw seemingly beating time to some unheard song. Its domed head was tilted down, its duck bill against its chest. Some of its tiara of emerald eyes were closed. Obviously it was taking time out to digest its latest meal, the bones of which lay neatly stacked beside it.

What was known about this creature? Its double helical Masadan equivalent of DNA was enormously long and contained coding enough for every species on this planet. But the sheer quantity of coding material did not necessarily mean the creature was complex—most of this could be parasitic and junk DNA. The first researchers into human DNA had been somewhat surprised to discover that lizards, lungfish, and ferns possessed substantially more DNA than themselves, and that they had no more than common grass. What it did mean, however, was that as a species the gableducks were very old.

They were omnivores; often supplementing their diet with flute grass rhizomes, fungi, and, oddly, anything shiny on which they could lay their claws. They possessed complex voice boxes, and as was already demonstrable, there seemed no reason for this. Also, on the whole, they were solitary creatures and spoke only to themselves. When they met it was usually only to mate or fight, or both. There was also no reason for them to carry structures in their skulls capable of handling vastly complex languages. Two thirds of their large convoluted brains they seemed hardly to use at all. In short: they were a puzzle.

Shardelle stood, walked along the metal floor of the ATV and climbed up into the chainglass bubble of the cockpit. Checking the map screen, she noted the transponder positions for the two hooders in the area, then chose a route to take her back to the Tagreb complex that avoided them completely. She had seen what had happened to an ATV and its four occupants when they had ignored this simple rule and driven close to one of the creatures for a look—or rather, she had seen the torn and very small fragments that remained of both people and vehicle. Taking up the joystick she drove herself rather than be guided in by Rodol. As an afterthought, she mentally sent the detach sequence to her aug and removed the chrome slug of sophisticated computer hardware from the side of her head. She had some thinking to do and found that easier while driving, bare-brained.

Taxonomic and genetic research bases, or Tagrebs, looked like giant iron tulip flowers when stored in the vast hold of the research vessel *Beagle Infinity*. Launched, a Tagreb maintained its shape during entry into a planetary atmosphere while its AI came online. The AI then slowed the Tagreb in lower atmosphere with fusion thrusters before finally descending on the chosen location using gravmotors. Upon landing, the flower opened, folding four petals down to the ground. From this, five plasmel domes inflated—one at the center and one over each petal. Their internal structures—floors, ceilings, walls, and stairs—were inflated at the same time. The AI then took a look around to decide how best to continue.

Rodol, aware of the problems Masada might present, first injected a thick layer of a resin matrix into the boggy ground below to protect the base from the depredations of tricones—molluscan creatures that, given time, could grind their way through just about anything—before injecting the same substance into the hollow walls and floors of the structure itself. Next the AI woke its telefactories, which immediately took the requisite materials outside the base to construct an electrified perimeter fence

and four gun towers. Unusually, these towers were supplied in this case with proton cannons capable of punching holes through thick armor, for some of the natives were anything but friendly. After three days the base was ready for the next stage. Automated landers descended inside the fence and the telefactories began bringing in supplies: food, bedding, nanoscopes, full immersion VR suites, soaps and gels, nano micro and submacro assembler rigs, an aspidistra in a pot, autodocs, autofactories, holocams, coffee makers. . . . Every item was slotted into its place or plugged in.

On day five a hooder came to investigate, attacked the fence, then retreated leaving its rear segment behind—incinerated by one of the cannons. On day six Rodol brought the fusion reactor fully online, supplying power to the multitude of sockets throughout the base. Lights, embedded in the ceilings, were ready to come on. Sanitary facilities were ready to recycle waste. Rodol stabbed filter heads down into the ground to suck up water, which was first cracked for its oxygen to bring the internal atmosphere to requirements, and thereafter pumped into holding tanks. The humans, haimans, and Golem arrived shortly afterward; disembarking from shuttles with massive hover trunks gliding along behind them. Only a few days after was it discovered that the five gravplatforms were not nearly enough for those who wanted to do field work. Grudgingly, Rodol cleared Polity funds to pay the local population for twenty aerofans and five fat-tired all-terrain vehicles.

Jonas arrived on foot, having been on the planet for six months getting to know the locals and many of the ECS monitors still assigned here. Six months later he raised in celebration a glass of malt whisky to the scene beyond the panoramic window of his upper dome apartment and laboratory. It was in a befuddled state that two hours later he received the message through his aug.

"Hi Jonas," said Mary Cole.

She was standing in the middle of his apartment—to his perception, for the augram was being played directly into his mind.

"Hello Mary." He toasted her with his glass.

"This is not real time or interactive so don't bother asking questions. I just want you to know that one of our coastal survey drones picked up precisely what you want, here . . ." The location downloaded into his aug. "That's only five hundred and thirty kilometers from you. Have a nice one."

As the image blinked out Jonas was already groping for his aldetox. "Rodol, I need the field autopsy gear, the big stuff, and I need it now!" he bellowed.

"What you require is available, but unfortunately the transport situation has not improved. All the gravplatforms are out and aerofans will not suffice," the AI replied.

Jonas gulped water to wash down the pills. He was already starting to feel sober even though the aldetox had yet to take effect. "What about the ATVs?"

"There are three here. Two require new drive shafts, which one of the autofactories is currently manufacturing. The other is assigned to Shardelle Garadon. Perhaps you should speak with her."

Jonas returned to his chair while the aldetox took effect. One of the ATVs had room enough to carry all the equipment he would require, initially, then came the problem of bringing specimens back. Perhaps he could get some help there from ECS? Something for a later date, he thought—plenty of work to do before then. After a moment he made a search for Shardelle's aug address, found it, and tried to make contact. Annoyingly her aug was offline. Instead, he found her apartment address within the Tagreb, stood, and unsteadily headed for the door.

Fifteen hundred and thirty-two linguists remained: the hardcore. The rest dismissed The Gabble as having less meaning than the sounds lower animals made. At least those sounds had a reason, some logical syntax, some meaning related to alarm, pain, pleasure, or the basic "I'm over here, let's fuck."

Unfortunately only a third of that hardcore consisted of linguists who Shardelle felt had anything meaningful to contribute. Of those, one Kroval—a haiman based on Earth who, in the silicon part of his mind, held nearly every known language in existence—had the most to contribute. His analysis fined down to, "The phonemes are 80 percent the anglic of Masada, and their disconnection from coherent meaning seems almost deliberate. I can say with certainty that they are not parroting the language, and perhaps a degree of understandable human paranoia engendered by the unknown, or possibly unknowable, leads me to feel they might be deriding it."

The latest offering from a small group of the others, who Shardelle labeled the lunatic fringe, had been, "It must be what is not said: meaning can be attributed to the synergetic whole of negatives. We just need to isolate the network of dissaffirmative monads in a . . ." and so it had continued until the speaker in question seemed in danger of disappearing up his own backside. It was this last that had led Shardelle to disconnect her aug and cast it aside.

They seemed to be getting nowhere. In fact, over the last six months, more imponderables had entered the equation. On the biological front little more was known than had been obtained by close scanning and sampling, and that had cost them fourteen mobile scanners and seven beetle-sized sampling drones—gabbeducks swatted them like flies and then, if they were shiny, ate them. What Shardelle had been waiting for, like so many others in the Tagreb, was a death. Other researchers had obtained their corpses: a siluroyne, a heroyne, and loads of mud snakes. But it seemed gabbeducks were in no hurry to die, and not one corpse or any remains had been picked up by the vast number of ECS drones constantly scanning the planet. Shardelle wondered about that: why so much scanning activity, why the quarantine areas still, what was it that ECS was keeping quiet? No matter, she had enough puzzles to concern her at present. Perhaps she should slip out one night with a pulse rifle and solve the corpse problem. The Gabble, and its source, frustrated her that much.

*Time to sleep*, she decided. Thinking like that was a sure way to get her expelled from the Tagreb and the planet. Nothing gets killed, unless in self-defense, until its sentience level has been properly assessed. Just

then, as she was about to head for her bed, there came a hammering at her door. Shardelle grimaced and considered ignoring it, but there was urgency in that hammering—maybe the corpse? She opened the door expecting to see one of the others on her team. Who was this?

He held out a hand. "Jonas Clyde . . . hooders. May I come in?"

Shardelle stood aside and waved him into her apartment. He looked younger than she had expected, but that meant nothing. His blond hair was cropped and he moved with athletic confidence. His face was tanned and his eyes electric green. His hands looked . . . capable. He scanned around quickly, his gaze coming to rest on her screen. The big gabbleduck was lolloping through the flute grasses.

"Moves like a grizzly bear," he observed.

She, of course, recognized his name. Jonas Clyde was something of a legend in Taxonomy and usually studied exactly what he wanted on any new world. It had come as a pleasant surprise to Shardelle, upon hearing he was on this mission, that he had not chosen the gabbleducks.

"Substantially larger, though," she said, closing the door.

He obviously auged through to her screen control, for figures appeared along the bottom. "Eight tons—not something you'd want to be standing in the path of." He turned to her. "I hear they eat people."

"Chew, certainly . . . coffee?" She walked over to her coffee maker—an antique almost three centuries old—and began making an espresso.

"Yes please—same for me. You say 'chew'?"

"Humans obviously disagree with their digestion, but if someone annoys them sufficiently they chew them up and spit out the pieces. But of course, like everything else with them, their behavior is puzzling. Gabbleducks have pursued human prey across hundreds of kilometers, for no particular reason, and killed them. There was one case of a hunter shooting a clip from an Optek into one creature and it ignoring him completely. A recent one we observed via holocam: a gabbleduck abandoned its territory, crossed five hundred kilometers, and drowned a pond worker in her squirm pond. We don't know why." Bringing two cups of espresso over, she nodded to her sofa. He sat down. Placing the cups on the table between, she took the armchair opposite. "I was surprised you did not choose them as your subject for study."

He grimaced. "They were my initial choice, but I have experience with dangerous fauna so it was suggested, rather strongly, that I choose the hooders. Obviously gabbleducks are dangerous, but not so lethal that it was felt necessary to fit every one with a transponder to know their locations."

"I see," Shardelle nodded, sipped her espresso. "So what can I do for you?"

"I want your ATV," he replied.

"Nothing if not direct. What for?"

"Hooders are long-lived and practically indestructible." He paused. "That's a puzzle too—we were told by the locals that when hooders reach a certain age they break into separate segments and each segment grows into a new hooder. This planet should be overrun with them . . . perhaps some mechanism based on predator prey ratio. . . ." He sat gazing off into space.

"You were saying," Shardelle prompted.

"Yes . . . yes. They are practically indestructible but for one big fault. As you know, the sea tides here are vicious—the moons and Calypse all interact in that respect. Hooders sometimes stray down onto the eastern banks at low tide, get caught there, then washed into deep water where they eventually drown. It takes a while, but it's deep off the banks and hooders are very heavy."

"And?"

"Occasionally a hooder corpse will get dragged up by the bank current and deposited ashore."

"I see—you have your corpse."

"And no way of getting a large field autopsy kit to it."

Shardelle gazed up at the screen. "Where is it?"

Jonas touched his aug for a moment, frowned, then pointed. "Five hundred and thirty kilometers thataway—straight to the coast."

Shardelle nodded at the screen. "He is about three hundred kilometers in the same direction."

"Your point?"

"Of course you can use my ATV, but under one condition: I'm coming with you." Shardelle knew there was more to her decision than the gableduck's presence on the route. There was the escape from the frustration of her research, which in that moment seemed to have translated into sexual frustration.

From the chainglass bubble cockpit Jonas glanced into the back of the ATV. Apparently these had been used as troop transports during the rebellion against the theocracy. Now either side of it was stacked from floor to ceiling with aluminum and plasmel boxes, strapped back against the sides, with only a narrow gangway leading back and elbowing right to the side door. It had been necessary for them to remove much of Shardelle's equipment, including the chair, but she did not seem to mind. He realized she was glad of this excuse for a journey to take her away from the meticulously boring research into gableduck biology, and the seemingly endless and fruitless analysis of The Gabble.

"How long will it take us, do you think?" he asked, now looking ahead. They were leaving the Tagreb enclosure, rolling across an area of trameled flute grass through which new red-green shoots were spearing.

"How long do you want it to take?"

"Your meaning?"

"Sixty hours if we go non-stop. Rodol can guide the ATV during the night . . . do you need sleep?"

"No—I'm asomnidapted."

"Ah, well I'm not." She glanced back. "I guess I could bed down there overnight."

Jonas shook his head. Now that they were on their way his urgency to get to the dead hooder had decreased. "No, let's stop during night time. I may not need to sleep, but I don't want to spend that length of time just sitting here. There's camping equipment in the back, so you can get your head down."

Shardelle guided the ATV down one of the many paths crushed through the flute grass and leading away from the Tagreb.

"And what will you do meanwhile?"

He tapped his aug. "Continue my research. Rodol is sequencing the hooder genome and transmitting the results to me. I'm running programs to isolate alleles and specific coding sequences. I intend to build a full virtual model of hooder growth."

"But first you need to be rid of the parasitic and junk DNA to get to the basic genome."

"Yeah, obviously—I've got programs working on that."

"It'll probably be a massive task. The assumption has always been that hooders are the most ancient creature on the planet's surface. The gableduck is probably younger, and its genome is immense."

"Yes, quite probably," Jonas replied, then after a moment, "I don't really like the term junk DNA."

Once, centuries ago, no one had known what all the extra coding was for. Now it was known that it was history: old defensive measures that no longer applied, viruses incorporated into the genome, patches much like additional pieces of computer code to cover weaknesses in a program. Some biologists likened much of it to the scar tissue of a species, but Jonas felt that not entirely true because it could, on occasion, provide survival strategies. Perhaps a better analogy would be to the scar tissue and consequent experience of an old warrior.

"You have a better one?" Shardelle asked.

"Reserve, complementary or supplementary."

"Very good."

By mid-morning the sun was passing underneath Calypse, throwing the gas giant into silhouette. Jonas spotted the snout spurs of mud snakes cleaving the rhizome layer ahead of them—attracted by the vibrations the vehicle created—but they disappeared from sight, perhaps recognizing the inedibility of ATV tires. Checking her map screen, Shardelle turned the vehicle from flattened track and nosed it into flute grasses standing three meters tall. The cockpit skimmed this, its lower half in the grass. A faint hissing sound impinged under the varying hum of the hydrogen motor and hydrostatic gearing. Eventually they broke from the flute grasses and began negotiating a compacted slope where the old grasses had been flattened by the wind. Reaching a low peak, a vista opened to one side of them. A fence stretched out of sight in two directions. Over the other side the ground was black, hazed with occasional reddish patches where new grass was sprouting.

"Quarantine area," Shardelle observed. "You were here for six months before the Tagreb arrived. Do you know what they're so worried about?"

"No monitor will answer direct questions, but, by the methods used, I'd guess biogenetic weaponry was employed." He gestured to the blackened terrain. "What you see here is only the flash-over area—the perimeter of a firestorm. I'd guess that the hypocenter was the strike point of an orbital beam weapon. They burnt that inner area right down to the bedrock and now they're watching to make sure nothing survived."

"Seems rather excessive."

Jonas decided to tell her the whole story, and wondered if she would think the actions ECS had taken here so excessive then. "You have to consider: how did one man 'steal' a Polity dreadnought? Mary Cole, a monitor I know, let slip that the research vessel *Jerusalem* was here for a time. You know what that means."

She glanced at him. "Jain technology?"

He nodded. "A few fragments sit in the Tranquility Museum on the Moon. That part of the museum can be instantly ejected and destroyed by CTD. It seems that fact is the biggest part of the attraction of the exhibit, because what sits there in a chainglass case just looks like a few bits of coral. It's the potential though: a complexity of dead nanomachinery that still, as far as I know, defies analysis."

"Someone used active Jain technology?"

"It would seem so. First to steal the dreadnought, then use both dreadnought and technology to hit this place."

"I'm surprised anyone has been allowed here at all."

"I'd guess the AI view is that they can't be overprotective. Three distinct and extinct ancient races have been identified: the Jain, Atheter, and Cso-rians. Remnants of their technologies exist, so it's no good us burying our heads in the sand in the hope they'll go away. We have to learn how to deal with them, hopefully before we run head first into something that might destroy us."

"And, of course, there are those that are not extinct, like whatever created Dragon."

"Precisely."

She looked at him, waiting for something more, then prompted: "Do you think we'll ever get the full story of what happened here?"

"The bones will be fleshed out in time. We know the Theocracy was supplying Separatists on Cheyne III and used technology, bought from Dragon, to destroy an Outlink station. The Polity supported the rebellion here that finally overthrew the Theocracy. Dragon changed sides, apparently because it did not like blame being attributed to it for the destruction of the station, and assisted that rebellion before suiciding on the surface. The guy who stole the dreadnought? Some Separatist coming here on the side of the Theocracy. He and his ship were incinerated while pursuing Polity agents to the Elysium smelting facilities."

"But is that really what happened here? The whole thing could be a cover for something deeper, something the AIs have been doing out here, perhaps some experiment that went wrong," said Shardelle.

Jonas snorted. It amazed him how scientists, whose entire ethos was based on logic and empirical proof, sometimes wanted to believe complete rubbish.

"I've never put much credence in conspiracy theories," he stated, which killed the conversation for some time.

Shardelle listened to the engine wind down, and to the slow ticking of cooling metal. She had parked the ATV on a hillock that she knew extended in a ring some kilometers in diameter. It was a good place to camp, the ground being too dry for mud snakes. She liked the view as

well and felt safer being able to see for kilometers in either direction. Rodol was watching over them by satellite and would warn if anything was getting too close, but this vantage gave them the opportunity to eyeball any of the natives and decide themselves whether it might be necessary to run. She turned to Jonas.

His eyes were closed, but, obviously, he was not sleeping. He was auging—probably deep in some virtuality in which the hooder genome lay across his entire horizon and, godlike, he peeled away clumps of it for analysis and compiled the resultant data. She studied his profile, the hard intensity of his features, the natural tan that came from spending a lot of time outside. Eventually she unstrapped herself and left him to it, turning on her shimmer-shield visor and snagging up her field tent and related equipment on the way out of the ATV. The landscape was red gilded by the nebula when he joined her an hour later. She was sitting in her camp chair before her tent, her visor flicking off and on as she sipped coffee.

"My apologies," he said. "I tend to get annoyed when anything blurs my focus."

"Me too," she replied. "But I've been focused on The Gabble for so long I need a break. Incidentally I don't put much credence in conspiracy theories, myself, and you really need some practice in recognizing irony."

"So no sinister experiments conducted by the AIs?" he queried, raising an eyebrow.

She laughed. "No . . . I see here the results of some ECS action which for a while will be considered a net gain for the Polity until the dirt starts to surface."

"Mmmm . . . and talking of dirt: Rodol has finished sequencing the hooder genome."

"Dirt?"

"There is none, or rather, surprisingly little."

"What do you mean?"

"Still a lot of analysis to do, but thus far we've found nothing that can be identified as parasitic in the genome. There is, however, a vast number of superfluities, accounting for immune response identifiers."

"That makes no sense. If it's old enough to acquire so high a level of immune response, it will have acquired parasitic DNA as well."

"You'd think."

There was something he was not telling her. She let it rest. At present she felt the most relaxed she had been in some time—just thinking about nothing and watching the world. She did not need his frustrations right then.

"I'm going to lie down now." She cast away the dregs from her cup and returned it to her pack. Standing, she faced him. "Would you care to join me?"

"I don't sleep," he said, looking distracted.

"Don't be obtuse."

He turned to her, focused, grinned.

"I promise not to be too rough with you," she added, and to save pride turned away and entered her tent. She felt slightly miffed that he took so

long following, and came in after she had turned on the oxygenator and stripped naked. He bowed in, quickly closing and sealing the entrance behind him. Shedding his breather gear he said, "You surprised me."

"Are propositions so rare for you?"

"Not rare, but frequently problematical." He paused thoughtfully, as if about to launch into further explanation.

Shardelle reached across, snagged the front of his envirosuit and pulled him into a kiss, then down on top of her. He seemed reluctant for a moment, then softened into it. His hands began caressing her with almost forensic precision, as if he were checking the location of all her parts. Eventually he backed off and struggled out of his envirosuit. There was not much foreplay after that. She did not want any, and came violently and quickly. After cleaning herself with wipes from her toiletries she said, "Perhaps we should continue this in the morning."

"Perhaps we should," he replied.

She lay back relaxed, her body heavy on the ground as if someone had adjusted up the strength of a gravplate below her. Closed her eyes for a second . . . He was shaking her by the shoulder.

"Come see."

Shardelle lay bleary and confused before realizing that she must have fallen asleep. Checking her wristcom she saw that five hours had passed.

"What is it?"

"Heroynes."

She took up her breather gear only, clicking only mouth mask into place, and stepped out naked with that up against her mouth. Out there, striding through the flute grasses, were four heroynes. She studied one closely. It stood on two long thin legs that raised it high above the grass itself, much like its namesake. Its body was L-shaped and squat with a long curved neck extending up from it. To its fore, numerous sets of forearms were folded as if in prayer. It had no head as such; the neck just terminated in a long serrated spear of a beak. Each of these creatures stood a good ten meters high, and moved swiftly across the terrain in delicate arching steps carrying them many meters at a time.

"Always weird," she said into her mask.

She turned to him. He was fully dressed and watching her.

"Are you still tired?" he asked.

Her answer was no, and he took her from behind, bent over the tire of the ATV, then again in the morning, long and slow in the tent, before they set out. Shardelle felt this trip out was most rewarding for her.

Jonas smiled to himself as he considered the night past. He felt enlivened and humanized by the experience, and certainly it had been beneficial for Shardelle. She seemed relaxed and easy, sated. But Jonas compartmentalized it as she started the ATV on its way, and returned his thoughts to some things that had been bothering him throughout the long watches of the night.

Hooders. Damn them.

Perhaps the sex had blown the crap out of his system, because certain biological peculiarities now seemed clear to him.

The superfluities in the hooder genome could explain the lack of virally implanted parasitic DNA. The creature might have, quite simply, from the beginning, had a powerful and almost complete immune response to viral attack. Dubious, but explainable. What was not explainable was something so obvious, he cursed himself as an idiot for not seeing it. The hooder was the top predator here. Hooders did not fight each other. Their prey were, on the whole, soft-bodied grazers with little more defense than speed. Why then did hooders need armor capable of stopping an anti-tank round?

"You know how hooders are hard to kill?" he asked.

The ATV was rolling down the hill into a crater that was known as Dragon's Fall. Shardelle glanced at him with that slight lustful twist to her mouth. "I know. It's why the Tagreb perimeter is supplied with proton weapons."

He nodded, tried to concentrate on the matter in hand. "It's their armor, and their speed, but mostly the armor." He paused for a moment. "You know there are other creatures with thick armor capable of bouncing bullets, but that's usually because there's something in their environment with a fair chance of cracking through it. The laminated chitin on a hooder stops most projectile weapons. Even lasers have little effect. If you want to damage one of those creatures, you need to upgrade to APWs and particle weapons, and even then you're talking about the kind of armament most people could not even carry."

"Maybe some other predator now extinct?"

"But what the hell would that be?"

She gestured ahead into the crater. "We'll probably never know. ECS apparently had teams excavating this place for ages trying to find draconic remains. They didn't find much."

"Tricones." Jonas nodded.

The molluscan soil makers of this planet were a problem in that respect. There were some fossils to be found in the mountains, but only there. Out here the tricones crunched up nearly everything solid down to a huge depth. All that could be found below the deep soil layer was the chalk, then limestone remains of the tricones themselves.

"Maybe there's a parasitic reason for the thick shell," Shardelle suggested. "I'm thinking in terms of the Earth parasite of snails that thickens the snail's shell to protect itself."

"But that results in the snail being unable to breed. There's always some balance to be upset. I'd also expect to see some hooders uninfected—thin-shelled." He shrugged. "Then again, a general infection of them all may account for their low population."

"Perhaps you'll find the answers on that beach."

"Perhaps."

Abruptly Shardelle slowed the ATV. He glanced at her and saw she was peering intently at the further edge of the crater. There were figures over there, humanoid.

"Dracomen," she whispered excitedly.

Jonas initiated a visual program in his aug, magnified what he was seeing and cleaned up the image. Six dracomen, two of them carrying

some animal corpse strapped to a pole between them, the other four scattered around them. Two of the others were small—dracoman children. This was the first time Jonas had seen them and he studied them closely. Though humanoid, their legs hinged the wrong way, like birds. Their scaling was green over most of their bodies but yellow from groin to throat. Their heads were toadish, jutting forward on long necks. They carried rifles of some kind.

Shardelle set the ATV moving again, altering its course to intersect with theirs.

"What are you doing?" Jonas asked.

"I want to talk to them."

"We're not here to study dracomen. There's a whole branch of ECS that does that—military, now dracomen are being recruited."

"Not study. You've got your corpse, but I still want mine. Dracomen hunt, as we can see—I'd just like some information on what exactly they do hunt."

The dracomen obviously spotted that the ATV was heading in their direction. The two carrying the pole laid it down and then they all stood waiting. As Shardelle and Jonas drew closer, and he could see them more clearly, Jonas began to wonder if this was a good idea. These creatures looked dangerous. Then he dismissed the idea as unworthy. They may have looked like something out of a VR hack-and-slash fantasy, but, from what he knew, they might well be more sophisticated and technically advanced than most Polity citizens. Shardelle parked the ATV on the brow of the crater edge ahead of them. Turning on their masks, the two of them left the ATV.

"Good morning!" said Shardelle, holding up a hand and advancing.

One of them moved forward, its head tilted as it eyed her, almost like a cockerel coming to inspect a grub.

"We greet you," it said, halting.

Jonas eyed the rifle this one carried. It appeared to be made of translucent bone and something shifted inside it like visible organs. It seemed alive.

"If you don't mind," said Shardelle, "I have some questions I would like to ask."

Jonas now saw that their catch was a mud snake: a fat grublike body terminating in a hard angular head that looked a bit like a horse's skull. Yellow ichor ran from something that was stuck in the body just behind the skull: a short glassy shaft to the rear of which were affixed two testicular objects. The dracoman tracked the direction of his attention, then abruptly stooped and pulled the object from the mud snake. He now saw that this thing possessed a barbed point. It looked like a greatly enlarged bee sting. The dracoman did something with its rifle and the side of the weapon split open. It shoved the barbed object inside and closed the weapon up. All the time it did not take its eyes off Jonas.

"Ask," it said.

"You hunt many animals," said Shardelle.

That was not a question so the dracoman did not dignify it with a reply.

"Do you hunt gabbleducks?" she asked.

The dracomán exposed its teeth in something that might have been a grin. It glanced around at its fellows who grinned similarly.

"No," it replied.

"Why not?"

"We only hunt prey."

"Not predators?" She gestured to their catch. "Surely mud snakes are predators."

"All predators are prey."

"I don't understand."

"Yes."

"Do you hunt hooders?" Jonas interjected.

By the amount of exposed ivory he guessed that was a hilarious question to ask.

Shardelle waved a hand as if to dismiss his question. "Why don't you hunt gabbleducks?"

"They are protected."

"Under Polity law, yes, but I thought your people had been allowed hunting rights to feed yourselves . . . within limits."

Some unspoken signal passed between the dracomén, for the two bearers once again took up the pole.

"Wait! You have to give me something!" said Shardelle.

Jonas glanced at her, realizing by the tone of her voice how desperate she was to find answers about the gabbleducks. The dracomén began to move off.

"Please," she said.

One of the dracomán children halted and gazed up at her.

"The meat is forbidden," it lisped, licking out a black forked tongue. It glanced at Jonas. "Except to hooders." Then the child scampered off after the adults.

"Delphic, just like their creator," said Jonas.

"There was probably a wealth of information there, if we could figure it out," Shardelle replied. She peered down the slope to where a tricóné about half a meter long had breached. This creature consisted of three long cones joined like Pan pipes, each revealing in their mouths gelatinous nodular heads which extended sluglike to lift the creature up, then propel it narrow end first back down into the ground.

"We will," said Jonas, turning back toward the ATV, "given time."

They made love on the second night, slowly, leisurely, and most of the time Jonas remained in the tent with her while she slept. He did not have to do that, but she was glad he did.

"In the morning we should come upon your big friend," he said at one point. "What do you intend?"

Shardelle grinned at him, suddenly unreasonably happy. "Well, I'd like to ask him what he and the rest of his kind have been talking about. Do you think he'll tell me?"

He smiled. "You know there's a kids' interactive book you can find here. The technology is Polity stuff but the stories were created here—distortions of old Earth fairy tales. When I said to you it moves like a bear, I

was thinking of one particular fairy tale: Goldilocks and the Three Bears, but in this case the three bears were gabbleducks."

"Your point?" Shardelle asked.

"Well, she crept into their house to try their food and their beds. . . ."

"Yes, I know . . . and baby gabbleduck's bed was just right. . . ."

"It was," said Jonas, "and baby gabbleduck thought Goldilocks just right when he ate her."

"Is there a moral to this?"

"Just be careful. I don't want to lose you now that I'm getting to know you."

Frustration awaited in the morning with Rodol telling them to divert from their course. Two hooders lay in their way. It would be too dangerous to approach the giant gabbleduck.

"They might attack it," said Shardelle, half minded to ignore Rodol's warning.

Jonas reached out and put a hand on her arm. "On the way back—I promise you."

They passed through an area where the shore wind had blown fragments of dead flute grass inland and mounded it in drifts, then into an area clear of everything but new shoots. Evening sunset revealed the sea and the beach. They spent the night inside the ATV, Shardelle bedding down on the floor. At sunrise they traveled the remaining kilometer to the edge of a cliff, and they soon located the dead hooter.

The dune across which the enormous creature was draped imparted a curve to its forward segments emphasizing its resemblance to a spinal column. Shardelle was reminded of ancient saurian exhibits in museums on Earth, and models and diagrams from the early years of the science of osteopathy. Its head was spoon-shaped, concave side down to the sand, its armor plates spreading in a radial pattern from the neck. Judging by the grooves leading down from the creature to the water's edge, its first discoverers had dragged it up the beach. They must have used some aerial craft to do this, since there was no sign of any other track marks in the sand.

"Do you know how we can get down there?" she asked, tapping up an elevation overlay on her map screen. The ATV rested above the beach just back from a steep muddy cliff. All around them the ground was level and had been scoured of even dead flute grass by the wind.

After auging for a moment, Jonas replied, "Go right."

Shardelle tracked elevation lines with her finger. "Yeah, I think I see it."

They traveled along above the beach for a kilometer, but downhill with the cliff growing shorter as they traveled and eventually petering out. A steep slope brought them down onto the sand whereupon they traveled back below the cliff. The lower part of the cliff was jagged limestone. Shardelle looked up and saw burrows in the compacted soil above that, and many falls. Tricone shells were imbedded up there, and many more were shattered on the limestone. Many of the soil makers had obviously not known when to stop and burrowed straight out of the soil to fall and smash themselves. When they eventually reached the hooter it seemed more like some rock formation than any beast, being over two meters

wide and a hundred meters long. Wind-blown sand had mounded around it. It seemed ancient: a dinosaur skeleton in the process of being revealed. She brought the ATV to a halt in the lee of the monster.

"Let's take a look," said Jonas.

The moment they exited the vehicle they smelled decay. Shardelle noted black insectile movement in the heaped sand, then spied one of the creatures close to her feet. It looked like a small prawn, but black and scuttling like a louse.

"Every living world has its undertakers," Jonas explained. "Let's just hope they haven't destroyed too much." He pointed toward the hoodier's cowl, much of which Shardelle now saw was buried in sand. "I've brought a few hundred liters of repellant. I'll confine direct physical autopsy to the cowl and a couple of the segments behind it. I don't suppose the rest will tell me much more."

"But you'll scan it entire?"

"Yes." He turned to her. "If you could dig out the terahertz scanner and run it down both sides a segment at a time?"

Shardelle grinned. "I can do that."

"Start with the cowl and those front two segments. It's going to be hard work, but I'll run a carbide cutter through there," he pointed to a section behind the two mentioned segments, "then we can use the ATV to haul the front end over and drag it free . . . let's get to work."

Shardelle nodded as he headed back toward the ATV, but, instead of following, she walked up close to the massive corpse, reached out and ran her fingers over the stony surface. Unlike the vertebrae of a spinal column, this was all hard sharp edges seeming as perilous as newly machined metal. It was not metal—more like rough flint and with the same near translucence. Seeing holograms, pictures, film of this creature in action in no way imparted the sheer scale of this lethal machine of nature. She shuddered to think what it would mean to be this close to a living specimen. But this one was definitely dead. She sensed an aura of some awesome force rendered impotent.

The circular saw was gyro-stabilized, but it bucked and twisted as its diamond-tooth blade bit into hard carapace. Already the disk blade had shed three of its concentric layers of teeth, and Jonas's shimmer-shield visor was flicking off and on to shed the sweat that dropped from his face onto it. He had cut only halfway through, taking out wedges of carapace just as a woodsman would remove wood with an axe. Now he was into the soft tissue of the creature, "soft" in this case meaning merely of the consistency of old oak rather than carbide steel.

Glancing down the length of the monster's body he saw that Shardelle had nearly reached the tail with the terahertz scanner. All hard work, but he was satisfied. The scans alone, taken at close range on a static target, should reveal masses of features not detected with distance scans. And, soon, he himself would be delving inside that wonderfully complex, and macabre, cowl. He shook more sweat from his face and continued to work.

Three replacement blades later, he had broken through. Shardelle, bored with waiting, had maneuvered the ATV into position, sunk its

ground anchors into the sand, and run out the cable from its front winch to the hooder, where she secured it through a hole diamond-drilled through the further edge of the cowl. Jonas backed out of the carnage he had wrought, lugging the circular saw, which now seemed to have doubled in weight. He gave her the signal to go ahead, and moved aside.

Shardelle started the winch running, the braided monofilament cable, thin as fishing line, drawing taut. After a moment, the note from the winch changed and the far side of the cowl began to lift. Black carrion-eaters began to swarm like ants. Sand poured from the cowl as it came up vertical to the ground, then in a moment turned over completely.

Jonas spotted something revealed where the cowl had lain and walked over. Carrion eaters were thick on the ground there amid a tangle of bones and tatters of leathery skin. He had wondered why they had been so numerous around the hooder itself, for it seemed unlikely they could feed upon its substance before time and bacteria had softened it sufficiently. The creature had obviously gone to its death still clutching recent prey. He returned, picking up the saw on the way, to Shardelle.

"Drag it over there." He pointed to the cliff. "We'll spray with repellant and set up a big frame tent over it."

She looked askance at him.

"Please," he added.

The cowl, with two body segments still attached, sledged easily across the sand. Jonas took a tank of the repellant from the ATV, slung it from his shoulder, and, using a stemmed pressure sprayer, walked around this section of the beast, liberally coating it. Carrion eaters fled in every direction. The tent, which came in a large square package, he sat on the first body segment and activated from a distance. Within seconds the package spidered out long carbon fiber legs, stabbed them into the ground, then dropped fabric down like a bashful woman quickly lowering her skirts.

"Let's get the equipment set up," Jonas said.

Later he was delving into the cowl: pulling up jointed limbs that terminated in scythe blades as sharp and tough as chainglass, or in telescopic protuberances that looked like hollow drills; excavating one red eye from the carapace, jumping back when it fluoresced, laughing and returning to work; running an optical probe down into one small mouth to study the cornucopia of cutting and grinding gear inside.

"You know, the present theory is that the hooder requires all this so it can deal with a kind of grazer living in the mountains. Those creatures feed on poisonous fungi, the toxins from which accumulate in the black fats layered in their bodies. When the hooders capture them under their hoods, they need to slice their way through their prey very meticulously, to eat only what are called the creature's white fats." He glanced at Shardelle who was watching with fascination.

"They don't kill their prey," she observed.

"Apparently. When the hooder goes after a fungus grazer, the grazer immediately starts breaking down the black fat to provide itself with the energy to flee, and then its blood supply and muscles become toxic, too. So any serious damage to either could release poisons into the uncontami-

nated white fat. The hooder dissects its prey, not even allowing it to bleed. It eventually dies of shock."

"The same with any prey it catches," Shardelle added. "Including us."

"I don't believe it for a minute," said Jonas. "The fungus grazers are only a small part of its diet, and many hooders don't even range into the mountains."

"Why, then?"

"I just don't know." He lifted out another jointed limb, this one terminating in a set of chisel-faced pincers. "All I do know is that when they've finished with their victim there's usually nothing left larger than a coin."

He continued working, only noticing much later that the tent's light had come on, and that Shardelle had gone. Looking outside he saw that she had set up her own tent, and no light showed inside. He went back to work, only stopping in the morning to get something to eat and plenty to drink, and to then sit meditating for an hour while his asomnidapted body cleared its fatigue poisons. As Calypse gazed down and the rising sun etched fire across the horizon, he experienced a moment of deep calm clarity. He knew now, felt that somewhere, deep inside, he had always known. So much confirmed it. Total confirmation had come from close nanoscopic study of the carapace. The sun had breached the horizon when he returned inside to package his samples. He needed no more from this beast now. Others could come here if they wished.

Shardelle wormed out of her tent, smelling coffee and feeling a deep overpowering need for it. For a moment she could not figure out what was different, then she saw it: the frame tent was gone, the hooder's cowl and two attached segments were in pieces. Jonas was sitting crosslegged on one of the limestone slabs, sipping a self-heating coffee. He gestured to another sealed cup resting nearby. She walked over to him.

"You've finished?" she asked incredulously.

He grinned. "Amazing what you can achieve when you have no need for sleep. I've been working for Taxonomy for fifty-three years. In my last eighteen years of being asomnidapted I've done more work than in the previous thirty-five."

"Perhaps I should consider that for myself," said Shardelle, pulling the tab on her cup. She preferred the coffee from her machine in the Tagreb, but here this convenience was preferable. While she waited for her drink to heat, she observed that he had a piece of carapace resting on a brushed aluminum box before him.

"Any conclusions?" she asked, leaning her buttocks against a nearby slab.

"Very definitely." He reached inside his coat and removed a small handheld gun. Shardelle recognized it as a quantum cascade, QC, laser.

"I promise not to steal your research," she quipped.

He grimaced. "It's not the stealing I would worry about, but how it may well be hushed up." He pointed the laser at the carapace and fired. A wisp of smoke rose, picking out the beam in the air. There was a red glow at the point of contact, but whether from heat or simply reflected light, Shardelle could not tell. But nothing else was happening to the carapace.

"You know, every piece I've managed to study has been old and partially broken down by bacteria. These are the freshest remains I've ever studied." Still he was firing the laser, and still the carapace was unaffected. "You see, a piece of old carapace would have started disintegrating by now, that's because certain nanostructures inside it would have broken down." He turned off the laser, then abruptly put his bare hand flat down on the carapace.

Shardelle leaned forward. "An insulator?"

"You'd think." He poured coffee on the aluminum box and it immediately sizzled into steam.

"Shit!" Shardelle squatted down beside the box to peer closely at the carapace. She then looked up at Jonas. "Conductive . . . *super*conductive?"

"Carbon fullerene nanotubes. When was the last time you saw something like that naturally produced?"

"About never."

"They're laced through the carapace material, which bears some resemblance to the shock-resistant composite laminates we use in our spaceships. The interesting part is that the nanotubes link down deep into the hooder's body. I'll have to look closely at the scans but my guess is that the more you heat up one of these bastards the faster it moves." He picked up the piece of carapace. "Of course, though you won't see stuff like this naturally produced, you can find it elsewhere."

"Sorry?"

He looked at her directly. "Polity battlefield armor."

"What? . . . What are you saying?"

"The genome was the first clue: so short, so concise, so exact. What I'm saying is that hooders, though living creatures, are artifacts; biogenetic artifacts."

Ahead lay a plain of flattened flute grass, boring and level as it disappeared into misty distance. Shardelle set the ATV on automatic, monitored by Rodol, and decided it was time, as Jonas was now doing, to check into the virtual world. She took her aug from a pocket of her envirosuit and plugged it in the permanent plug behind her ear, closed her eyes, and booted up.

First she checked her messages and was appalled to find over four thousand of them awaiting her attention. She opened only those from recognized sources. Some of them were personal; from her brother, from two of her three children, one from her third husband, another from her great-grandmother. The first ones were easy enough to answer with pages from her diary run through a personalizing program. The one from her great-grandmother, who was a xenobiologist of some standing, she took rather more care over. As she laid out the reply, detailing her frustrations and nascent theories, she wondered if Jonas knew her great-grandmother. She had been in Xeno for seventy years and he in Taxonomy for fifty-three, perhaps they had met at some time? Other messages updated her with news from the Tagreb. A gabbleduck's bill had been discovered in the mountains. In her absence it had been measured and analyzed ad nauseum, but nothing new learned. Still other messages debated the merits of this linguistic theory or that one, and it was with a sinking sensation that

she opened some of the messages from unrecognized senders to find links to where papers on The Gabble had been published. She turned her attention to the linguistic net.

The hardcore had now dropped down to below a thousand. It seemed that most of the lunatic fringe had dissipated, hence the appearance of all those papers. Most serious theorists did not publish until they had something worth publishing. That was accepted protocol to prevent too much rubbish clogging up the informational highways. Nothing new on the net. Returning to her messages she deleted every one from unknown sources. Only then did she spot the message from the haiman Kroval on Earth:

*"Every bird sings for a reason, similarly do dogs bark. Perhaps the Anglic similarity is misleading and the morphemes longer than we would suppose . . . maybe the length of a gabbleduck's life. Perhaps they are all saying the same thing?"*

That made Shardelle pause. She groped for meaning and it seemed to her to be lurking out of reach.

*"The meat is forbidden,"* the dracomani child had said.

*Something there . . . something.*

After time, her frustration became too much and she removed her aug. Once again taking up the controls of the ATV, she noticed that Rodol had reset its course, taking the vehicle away from the big gabbleduck. The reason was obvious: a hooder only five kilometers away from it. With a quick glance at Jonas, Shardelle manually overrode that and put them back on course. She was damned if she was going to miss seeing it on the way back to the Tagreb. Jonas had made *his* big discovery. Maybe she could come out of this with at least something.

A minute later, Jonas looked at her and said, "Rodol just informed me that you are taking us closer to a hooder than might be safe."

Shardelle pointed at the map screen.

He nodded. "Just be ready to run. Hooders move damned fast when they want to."

Shardelle felt almost angered by his reasonable attitude, and felt too ashamed to analyze too closely the reason for that.

Afternoon, and they were back into still-standing flute grass. Shardelle spotted the gabbleduck when they were still kilometers away from it. It sat, a pyramid of alien flesh, its green multi-eyed gaze fixed on the horizon, bill swinging gently from side to side.

"How close would be safe?" Jonas asked when they were only a kilometer away.

Shardelle looked down at her hand gripping the joystick. Her knuckles were white. "I'm going to approach it. I'm going to walk up to it. You can stay in the ATV if you want."

Five hundred meters, two hundred meters. Shardelle felt her frustration increase. The gabbleduck had not even turned to look at them. It was as if it could not be bothered to acknowledge their presence. At a hundred meters she just trickled the ATV forward.

"That thing is fucking immense," said Jonas. He had abandoned his seat to go into the back of the vehicle. She saw that he was clutching an ECS pulse-rifle.

"What do you intend to do with that?"

"I'll just keep watch. If it goes for you maybe I can drive it off, though seeing it now I realize it might just ignore this popgun."

Shardelle nodded, and brought the ATV to a halt ten meters away from the monstrous creature. Turning on her shimmer-shield visor, she maneuvered past him and headed for the door. When she finally stepped down onto the rhizome mat and began pushing her way through the flute grasses, she heard The Gabble.

"Umbel shockadisc po frzzzt," the gabbleduck grumbled to itself.

A few paces took her out of the standing flute grasses to where the creature sat. She recognized the stack of grazer bones beside it. The gabbleduck had returned to a previous location.

"Pthog," the gabbleduck intoned, "Erb scugalug."

It just made Shardelle angry. She marched forward and round until she was standing directly in front of the creature. It was indeed massive: folds of flesh hanging down from its body and almost concealing its powerful rear limbs. When it moved through the flute grasses its three sets of two forelimbs slotted neatly together to form two composite forelimbs so it seemed to run on all fours like, as Jonas had observed, a bear. Now those forelimbs were folded on its chest, and, sitting like this, it seemed some immense alien Buddha. Shardelle glared up at it.

"I've listened to over a thousand hours of that crap!" she shouted. "What the fuck are you saying?"

"Frogijig unth," it observed.

All so close to meaning, but no meaning there. Returning her attention to its fleshy torso she saw that it had acquired a whole ecology all its own. The gabbleduck was crawling with prawnlike crustaceans. These were most numerous around wet looking sores, and the occasional lumpish growth leaking milky fluid.

"Shardelle! Shardelle! Get back here quick!"

*Those crustaceans . . .*

A sudden excitement filled her. It was the very same species they had seen crawling around the dead hooder: carrion eaters, they never fed on living flesh, but, like vultures, possessed an instinct for death.

"Shardelle!"

This gabbleduck was dying! She would have her corpse!

Then, through her aug: "This is Rodol. You must flee your current location at once. A hooder approaches."

*What?*

Shardelle turned and gazed out across the plain the gabbleduck viewed. A black train was heading toward her, weaving back and forth. The hooder bore some resemblance to a giant millipede with its segments and many paddlelike legs. It also moved with the fast oiled smoothness of that insect. Shardelle froze to the spot, not out of fear, but through incredible angry frustration. She could not have this taken away from her, not now. It just was not fair.

"For fuck sake get in here! Maybe it'll ignore us!"

The ATV was parked right next to her. She had not heard it arrive.

"Bregon ahul bul zzzk," said the gabbleduck.

She suddenly realized how jealous and stupid she had been, and that both she and Jonas might pay for that. She ran for the door of the ATV and piled inside, hauled herself forward. Jonas was in the driving seat trying to get the thing into reverse. He did not take the power off and with a crunching shudder the vehicle stalled.

"Fuck fuck fuck."

They both looked through the screen. The hooder was close, its front end rising off the ground like the striking head of a cobra. Inside its cowl was a mass of glittering knifish movement through which two vertical rows of red eyes glared. It was not focused on them. It was focused on the gabbleduck. Surely it would respond to this. Shardelle looked at the exterior intercom Jonas had been calling her through to check it was still on. No need really. She could hear the hard oily clattering of the hooder's movement.

"Bregon," the gabbleduck repeated, waving a black claw in the air.

The hooder froze. The gabbleduck turned its bill toward the ATV. It blinked some of its emerald eyes, then returned its attention to the hooder. After a moment it reached out with one claw and made an unmistakably dismissive gesture. The hooder sank down, turned in a gleaming arc and sped away.

"How do I get this damned thing started again?" Jonas asked.

"There's no need. It's gone."

He snorted a harsh laugh. "Yeah, right. Well, when you've quit having your moment of epiphany, perhaps you'd like to take a look at the map screen."

Shardelle did so, and for a moment could not make much of the graphics displayed there. They did not seem to make much sense.

"About thirty of them," said Jonas.

Then it did make sense. There were thirty hooders scattered all around them. They were moving, but seemed to be holding off for the present.

"You say the bill of a gabbleduck was found in the mountains?" Jonas asked.

"Yes."

Jonas turned off the ATV's engine. Moving the vehicle back into a stand of flute grass had been the best they could do. Hopefully the hooders would attack the gabbleduck and be too sated by that to attack them. There was no way to hide completely. He had studied the hooder sensorium and knew it would pick up body heat even through the skin of the ATV. Leaving the engine running would generate more heat to further attract attention.

"Nothing else?" he asked.

"It's damned annoying. There should be more—bones at least."

They were having a perfectly sensible conversation, sitting in the ATV, waiting to die. The nearest monitor force had sent a transport, but that would not be here for another hour. The hooders, it now seemed evident, were holding off until the gabbleduck finally expired. That could happen at any moment.

"But the tricones grind away all remains, which was why that bill was found in the mountains."

Jonas wondered for just how many millions of years the tricones had been grinding stuff away. He augged through to the Tagreb and directly into the database maintained by those researching the mollusks. It did not take him long to discover that the tricone genome was just as concise and devoid of rubbish as that of the hooder. He connected then to the AI.

*"Rodol, are you listening in?"*

*"I am."*

*"Good."*

To Shardelle he said, "Three ancient races, the physical technological remains of which probably would not fill the back of this ATV."

She glanced at him, seemed about to say something, then abruptly returned her attention to the gabbleduck. He thought she was swallowing tears.

"Tricones are biogenetic artifacts as well," he added.

"I think it's nearly dead," she said.

The gabbleduck seemed a sleepy old man, its head nodding, bill lowering to its chest, then jerking up again. Removing his QC laser, Jonas laid it on the console before him. They both stared at it. He guessed she understood his intent. They both knew how hooders fed.

"But of biogenetic artifacts left by those races there are many: plants obviously made to refine metals from soil, worms made to accumulate radioactives in their bodies, and perhaps many others we don't recognize. You know there are theories that even some Terran life forms are such artifacts? Why do some creatures carry a venomous punch so far in excess of that required to kill their prey? Why the chalk builders, the coral makers, why this, why that? Much was attributed to Gaean theories. Now there is some doubt."

"You'll be getting to a point sometime soon," said Shardelle. "I think we are running out of time for discussion . . . Oh hell." She leant forward.

The gabbleduck held out a claw.

"Kzzz lub luha Brogon," it stated, its voice clear over exterior com, then it abruptly sagged and its bill came down to rest upon its chest. The light went out of its eyes.

Jonas lowered his gaze to the map screen.

*"They're coming."*

He picked up his QC laser.

A rushing hissing impinged. Jonas could feel the ATV vibrating. He closed his eyes and swallowed dryly. What did his theories matter now? And, should he not state them, Rodol would have most certainly worked it all out.

The first hooder came in from the right, its front end rearing thirty meters into the air, then coming down like a striking snake on the mountainous corpse. It began feeding, its long body rippling down its length. He did not see the second approach, just suddenly there were two hooders there, tearing at the corpse. Then a crash and the ATV shifted to one side, bouncing on its suspension as another of the monstrous creatures came past. Another rose up behind the others, vertical rows of eyes glowing, eating utensils opening out in a deadly glassy array. Down. Corpse jerked this way and that. Limbs conveyed away, sheets of skin peeled, fat and

muscle and sprays of milky blood. Soon there was more hooder to be seen than gabbleduck: a great black Gordian tangle, racketing with the sound of some vast machine shop. It took less than an hour. One hooder slid away, then another. Jonas waited for one to come straight at the ATV. He wondered when he would fire the first shot through the side of Shardelle's head. When it hit the vehicle, when it tore it open, or at the point when one of those cowls poised above them? One of the creatures came close, shaking the ATV and jouncing it along the ground as its carapace worked like some giant rough saw down the side of the bodywork. Then they were all gone, and he was staring down at the map screen watching their transponder signals depart.

"I guess they've eaten enough," said Shardelle.

There was nothing solid left, only fluids splattered on ground that looked as if it had been ploughed.

"Bones as well—everything," said Jonas. "But then that is probably their purpose."

She looked at him, sharp, annoyed. He stood and headed for the door and she followed.

"You want to know what The Gabble is?" he asked, standing at the edge of the churned ground.

"Of course I do."

He gestured to the mess before them. "Something made the hooders and the tricones. The hooders were most certainly a weapon in some war and the tricones made to digest the physical remnants of a civilization."

"But why?"

"We'll probably never know the answer to that. Tricones and hooders possess the same planetary genome as the gabbleducks, which means the gabbleducks probably made them. But their final purpose might not be the gabbleduck's own."

"You hinted that you knew what The Gabble is," said Shardelle stubbornly.

"Maybe it's a language of non-meaning: words spoken by a race that has given up, withdrawn, even chosen to forego intelligence. A race become so self-effacing it has made tricones to wipe out every trace of its civilization, and turned its own war machines to the purpose of destroying even the remains of its own devolved descendents. Or perhaps it's even worse than that."

"How could it possibly be worse?"

"Perhaps they lost some war, and this was done to them by the victors: their civilization erased, their creatures turned upon them—just enough mind remaining to them so they always remember what happened, that scrap of intelligence just enough for them to know how to hold off the hooders until they die."

Shardelle shivered. Jonas felt an immense sadness at the core of which grew the seed of new purpose. Calypse hung above the far horizon, etched out by the setting sun, and, silhouetted, came the ECS transport. Tragedy here, or choice—he did not know. He swore to himself, in that moment, that one day he would. ○

Deborah Coates lives in Ames, Iowa, and works at Iowa State University. She has had stories published in *Strange Horizons* and *Scifiiction*. Deb is wholly owned by her dogs, John Henry and Charming Billie. In her first story for *Asimov's*, she gives her enchanting character . . .

# 46 DIRECTIONS, NONE OF THEM NORTH

Deborah Coates

I have to get to Alaska this summer. I so, so, so *have* to get there! I don't want to tell my parents the real reason—that aliens will be landing seven miles outside Fairbanks on June twenty-first—so I'm trying to come up with something, anything, that they're likely to go for.

I thought about a marching band trip. I play clarinet. Right outside corner. Maybe Fairbanks has some kind of solstice celebration. Maybe we could march in the parade. And if you think that's going overboard—trying to get a 108 piece marching band invited to Fairbanks so I can be there when aliens land—I have to say that you don't know much about sixteen-year-old girls or about wanting something bad enough to just about split yourself in two.

I bet you're asking yourself how I know. What makes a sixteen-year-old girl who's lived all her life in same-old, same-everywhere suburbia, think that aliens are landing outside Fairbanks, Alaska this summer? You think I got it off the Internet, I'll bet. Well, you are *so* wrong.

It was text messages on my cell phone.

I called the Fairbanks Chamber of Commerce and asked about a solstice celebration.

"A what?" the woman said.

"Solstice. You know, like beginning of summer, beginning of winter."

"We don't have that here," she said as if it was something kids got into when their parents weren't watching or a lower forty-eight sort of thing that people moved to Alaska to avoid.

#### Four Reasons I Totally Know that Aliens are Landing This Summer

1. Text Messages
2. Dreams
3. Lights in the sky at night when it's clear
4. Because I Really Really Want them to

#### Why I Want to Go

1. Well, duh! *Aliens!!!*

#### Five Reasons My Mother Will Never Let Me

1. She's the meanest, most boring person on Earth.
2. She never listens to what I say (actually, this could be a good thing).
3. She has no imagination.
4. It's her job (she actually tells me this) to say "no."
5. She never lets me do anything.

About three months ago I started having this dream. It was before I even had a cell phone. Can you believe that? A sixteen-year-old girl without a cell phone! I mean, I told my mother and told her, but she kept saying, oh no, wait for your birthday and . . . well, anyway, I had this dream. I sort of forgot about it, figured it was too much pizza or something. But then I actually did get my cell phone and I started getting messages. And the dreams kept right on coming. They vary a little, the dreams, but mostly it's the same thing at least three times a week and sometimes every night.

I don't realize that I'm dreaming at first. I feel good. Excited, like Jason Stemple has just asked me to the junior dance or I just ran the thousand meters in my best time ever. I look around for my friends—Molly Miller or Stacy Urbanski—and that's when I realize that I'm not really anywhere. There's just blue, all around me.

I realize that I'm floating, really high, above the clouds so I can't even see the ground. And right when I realize that I'm in the air I start falling. Only it's not scary, not like rushing wind and cold and like it really would be if you were falling from that high up. Just falling, and looking around at all that blue.

And then, like it's always been there, even though it hasn't, there's a space ship. It's all around me, even though I'm still floating in the sky. There's still the blue and everything. But there's also this spaceship—you know the kind of thing that happens just in dreams, maybe. The sky and the spaceship and me. There's writing on the walls—all over the walls—and it looks like alien writing, but when I get close to it, I can see that it's regular words. I only get to read a little bit of it each time. It's all coordinates and kind of lousy spelling, but after a couple of times, I start to get what they're saying. Then, the aliens come and I think, in my dream, that I can see them. But I can't. I never see what they look like. I think I do,

the whole time I'm dreaming, I think I'm seeing them. It's only when I wake up that I realize that I don't know what they look like and that I didn't really ever see them at all.

The Messages

WE R CMNG (we are coming)

RU RU CMNG (are you are you coming)

AL S GO (all is go)

DNT B L8 (don't be late)

SUS (see you soon)

My brother and my dad are going to some stupid restaurant convention in Las Vegas in June. He wanted Mom to go with him, but she wouldn't. "We're divorced now," she says. "We don't go places together anymore. Remember?"

She's trying to pick a fight when she says things like that, but my father always just looks at her with a kind of lazy smile on his face. "Besides you have to work," he says.

"Someone has to."

"I want you to be happy," he says, like that has anything to do with the conversation.

She throws up her hands then and says, "Yeah, right. Happy. That's what you're all about, isn't it? All about wanting and needing and getting. Well, life doesn't work like that. What do I get?"

And my father says, "What do you want?"

And sometimes, not all the time, not even usually, but sometimes, she'll get this look on her face, like she's actually considering the question. And if you watch her real close you can see her face change and for just a tiny second, she looks vulnerable. Sometimes in that split second, my father almost reaches out to her. Then it's gone and the old look, that closed up, not-quite-angry look returns. "I don't want anything," she says.

The aliens send me email. They have free accounts, I guess.

Will u be ther? We will bee arriving soon and we are telling everyun. We are being at these coordinates. You come okay?

It's like those guys that send spam with the words all misspelled so no one blocks them. Except this isn't spam. It's really real. And I'm going.

Here's an alien concept—even *thinking* of talking to my mother about aliens.

You have to understand that I totally don't get my mother, okay? I mean, my dad's cool and she divorced him, just like that, like it was easy. She didn't cry or anything. "We want different things," she said, like that made any sense.

There's this old movie she watches all the time, like on Saturday afternoons when it's raining, or late on Sunday nights. It's called *The Natural* and Robert Redford's in it, from when he was younger, you know. There's this one part in the movie when he's talking to his old girlfriend who he

was all set to marry early in the movie but then lost track of in a tragic, but kind of stupid way and he tells her later when they finally meet up again, "My life didn't turn out the way I planned."

My mother doesn't ever say anything, but I can tell she feels just like Robert Redford's character, that her life didn't turn out right. She's got a job she doesn't like. She lives in a place she doesn't want to live. And though she's never outright mean to me or my brother or even my dad (not even when the divorce was going through), I can't always tell if she likes us.

Some days, I feel like saying to her, "Hey! Your life! Totally in control here!" You get to choose, you know. She could choose, like my dad did, to have a different job. I mean, when I was in middle school and I found out Sally Banger told everyone that she saw me eat a worm, I chose not to be friends with her anymore. It was simple—except for the shouting match in the cafeteria. Everyone said it was about time someone told that Sally Banger what for. People like my mom choose stuff they hate, and then gripe about it endlessly. That's never happening to me. I'm never going to be her.

Molly Miller tells me she's getting all these "crap" messages on her cell phone.

"Spam," she says. "And not even spam you can understand."

I kind of—just casually—suggested that it might be messages from aliens. That she could, like, reply and see what happened. And, geez! You'd have thought I'd suggested she join the Spanish Inquisition or something.

"Messages from *who*? Who spells like that?"

"Well, they're text messages, Molly."

"I wouldn't answer them if I were the only person on earth and I hadn't had a conversation with a live human being for twenty years!"

"What if it was, like, the most extraordinary thing ever?" I asked her. "Wouldn't you be sorry you didn't answer?"

She just looked at me as if I was still the same dopey kid I'd been in middle school. "It won't be," she said.

But won't she be sorry when she's wrong.

Introducing my Dad to the idea of Aliens:

"Can I talk to you?"

"Sure, honey." My father stops what he's doing, changing the oil in the car, and looks at me in anticipation.

"I want to go to Fairbanks this summer." The words come out all in a rush, tumbling over each other like a snow-fed spring creek. The whole speech I meant to give him is all lost somewhere in my head.

"What?" my father says, sounding almost like my mother when she isn't listening. But I know that isn't it, my father always listens. It's one of those things he prides himself on, perfect soufflés and always listening.

"Okay, see, I know this is going to sound crazy, but just listen, okay? I'm getting these messages and I think they're from aliens. I'm pretty sure—well, almost really sure—that they're from aliens and they're coming to

Fairbanks this summer and they want me to come there too and I really, really want to go and please can you help me, please?"

He sits on the asphalt and looks at me with a big wrench in his hand. "Like, illegal aliens?" he asks. "You want to help them?"

"Not exactly."

"Like, across the Bering Strait? Like, escaped from Siberia?"

"No!"

"Well, not from outer space." He says it as if *that*—aliens from outer space—is too ridiculous to ever even consider.

My dad is mostly pretty cool. He used to be a corporate lawyer, went to work every day in suits, but he quit a couple of years ago to start his own restaurant and now he goes around all day long in T-shirts and jeans. He moves slower and he smiles more and he's mostly fun to be around, like when he cooks my brother and me fancy pancakes late on Saturday morning and never says anything about cleaning the house or getting our chores done or being responsible. But even though he's all about dreams, he's not much on out of this world kind of things.

Once he found an old stash of paperbacks of my mother's—fantasy and science fiction—he pulled them out of the box one by one and laughed at the dragons and the spaceships and the swords. "Is that what you wish," he asked her, "for a knight in shining armor?" Then he laughed. "I guess you got me instead," he said.

"I guess I did," my mother told him.

So, when he says, "not from outer space" I get that what he's really saying is, "I'm never going to believe a whopper like that." And even more that, as much as I love him and think he's like the coolest dad, he doesn't have what it takes in his head to understand.

How to Write a Persuasive Essay:

State the theme: Why I want to go to Alaska to see Aliens

Paragraph One—define the problem—The opportunities for human-alien interaction are big. We learn from them. They learn from us. We all learn from each other.

Paragraph Two—(to be written)

Paragraph Three—(to be written)

State your conclusion—Helping aliens is, like, a duty. They've asked me to come. For the reasons all laid out above, I need your support to proceed.

"I need your support to proceed." *That* sounds dorky.

Jason + Me

Me + Jason

Whoa!

I thought the aliens had this weblog—Aliens in My Backyard—which is all about aliens landing and going into this guy's house and being all weird and stuff. And I thought—oh my god, they lied to me and they already came and they didn't even come to Fairbanks and I missed it.

But now I think it's a hoax.

I'm pretty sure it's a hoax.  
It better be.

Molly Miller told her MOM!!!!!! Hasn't anyone ever heard of SECRETS!!

My mom comes home from work and actually slides into the house sideways as if she'd rather be anywhere else than here. I know that Mrs. Miller has told her what I told Molly. I mean, geez, can't parents ever mind their own business? So, my mom slides into the room, and stops in the kitchen doorway, looking around to see who's there. My brother's down at the storefront with Dad, though, so it's just me and her. And I can't decide if I should say it, right out loud, before she can, or if it'd be better to just wait and see what she's going to say.

"Is your homework done?" she asks as she comes all the way into the kitchen and drops her keys on the kitchen table. My mother was pretty once—in a big hair and disco kind of way. And every picture I've seen of her when she was in high school and mostly through college too, she's laughing and doing something—water fight or skiing or showing off something that she did. My mother went to the biggest science fiction convention in the world by herself when she was seventeen—she wanted to be a comic book writer—can you even imagine that! But now, she doesn't hardly smile anymore and she just looks worn out and disappointed, as if the whole world's let her down.

"Look," I say in a big rush as if talking fast will make it all work out. "I have proof and everything."

She sits down at the kitchen table and looks at me. "You can't possibly have proof."

"Why not?"

"Why would you be the person who knows that aliens are landing?"

"Why not? Maybe I'm just smarter than everyone else. Maybe I just listened!"

"Maybe you are just the most credulous."

I'm not entirely sure what that means, but I know it isn't a compliment. But before I can reply, my mother goes on. "Look," she says in what I think she thinks is a kind voice. "You're sixteen and you get to make a fool of yourself once in awhile. It's okay, we should all believe things that can't possibly be true once in our lives." Though she says it as if it's something she rehearsed in the car on the way home, not like it's something she actually believes. "But you can't go to Alaska."

"Dad would take me." Which I know is exactly the wrong thing to say, but why does she have to be so mean? Does she practice at night in front of the mirror? I can see her face getting that closed-up look it gets when she's mad and hurt at the same time, but I don't care.

"Your father is not taking you," she says.

"I hate you," I shout. "You are cranky and mean and you want everyone to be as miserable as you are!" Then I run out of the house. I am so tired of talking to people who don't even want to listen. I'm going to find someone to pay attention to what I'm saying.

\* \* \*

Why Jason Stemple is a great big STUPID and I hate him

1. He won't take me to Alaska
2. He laughed at me
3. He told Sally Banger
4. She laughed at me
5. They will be sorry!!!!

Why I Don't Care

1. Because Jason Stemple is a great big STUPID
2. And I hate him

I hate my mother. I hate Jason Stemple, but I hate my mother more. She just wants me to grow up to be as boring and mean as she is. That'd make her feel good, I bet. If I just shriveled up and died.

"I don't want people to call you a fool," my mother says when I finally come home.

"You don't want people to say you have a crazy daughter, you mean."

"You have to have reasonable dreams."

"Why? Is that what you have, reasonable dreams? Does that get you anywhere? You and Dad are divorced but you still love him. You have a job you hate, but you won't quit. You complain about everything. You never have any fun. Be a fool for once, Mom! We'd all like you better."

Six Reasons I Will Not Feel Like a Fool (no matter what my mother says)

1. I'm right
2. Aliens are coming
3. Everyone else can eat dirt and die
4. Dreams are worth dreaming even if they don't come true
5. There's nothing wrong with wanting Aliens whether they come or not
6. Because I am not the foolish one

"I thought my life would end up anywhere but here."

I wake up and it's, like, the middle of the night and my mother is talking to me. I look at the clock. Ohmygod, it's three o'clock in the morning! "Mom?"

She's sitting at my desk and I can only see her as a dark shadow in the half-light that sneaks through the window. "I just . . . you make decisions, you know. I'll take this job or study this in school and you mean for your life to go in one direction, but everything you do, every little decision you make leads you somewhere else." I can't tell if she even knows I'm awake. "And you don't even know it." She goes on as if it doesn't even matter if I'm here or not. "You don't even know you're not ever going to go on great adventures or change the world or even do the things you love anymore. I never meant, I never wanted—I did what was in front of me. And now . . ."

She stops talking and I'm just savoring the notion that I'm in bed and I'm warm and maybe this is all a weird dream where I learn to get my mother better, when she slaps her hands on her knees and says, "Let's go."

I don't say anything because I'm still working on the "it's all a dream" thing until she crosses over to my bed and shakes me and says, "Come on. Get packed. And hurry up because I'm leaving right now."

Then she's gone again, leaving me sitting up in bed going, "Wha—?" And then, "ohmygod." And "no, she would never." And, finally, "ohmygod, this is so totally cool!" And I jump out of bed like it's ten o'clock in the morning not three and I grab clothes and get dressed and all the time I'm not sure that what I think is happening is what's happening and it's not still some weird dream. I'm half thinking that I'll run downstairs all dressed and dragging my knapsack and there won't be anyone there. I'll just be an idiot who believed a dream. But I keep packing anyway because, who knows?

Three Reasons my Mother is the Coolest Woman On Earth

1. She totally gets me
2. She writes comic books
3. She's going to Alaska for the aliens!!!!!! ○

## O THE ANGELS AND DEMONS

that flew when she  
opened the bottle

the dragon  
that curled in her skull  
and drank from her eye

a fiery dream  
ignited inside her  
when she tasted

the wine from Eve's apple  
fermented forever  
tart on her hungry tongue

—Laurel Winter



# DARK EDEN

Chris Beckett

Chris Beckett tells us that although “Dark Eden,” is a stand-alone story, it is also “a prequel to a story called ‘The Circle of Stones’ that was published in *Interzone* way back in 1992. In case anyone is interested, I have put the story on my website [www.btinternet.com/~chris.bb](http://www.btinternet.com/~chris.bb).” Chris’s well-received first novel *The Holy Machine* was published by Wildside Press. His second novel, *Marcher*, is nearing completion. It incorporates a lot of material from his various “shifter” stories, including “Tammy Pendant” (March 2004) and “We Could Be Sisters” (October/November 2004). Chris lives in Cambridge, England, with his family. After eighteen years of working life as a social worker, he is now a lecturer at Anglia Ruskin University.

## Tommy:

Space is a dangerous place but for me it always felt like a haven. Especially this time. In the final days before our mission every newspaper and TV station on the planet had been carrying revelations from Yvette. I couldn’t twitch a curtain without a storm of flashbulbs and a chorus of voices. I couldn’t pass a newsstand without seeing my name:

TOMMY SCHNEIDER’S EX TELLS ALL

SEX-MAD SCHNEIDER BROKE MY HEART

The void between the stars, sub-Euclidean nothingness—all that was fine with me, a bit of peace. But it looked as if even this escape route would soon be closed off.

“I think this will be the last trip before they shut down the program, yes?” said my crewmate Mehmet Haribey on the shuttle out. He was a

Turkish Air Force officer. We usually had one non-American in recognition of the fact that the program was nominally international.

"God, I hope not," I said. "Who would I be if I had to spend my life on Earth?"

Mehmet grunted sympathetically. I'd worked with him several times before and liked him a lot. He was an open, warm kind of guy.

"Or it *would* be the last trip," said our captain, "were it not for the fact that *this* time we are going to find life."

Mehmet and I exchanged glances. Dixon Thorley was okay when he was just being himself, but he found it hard to forget that God Himself had called him to carry the good news of Jesus Christ to alien civilizations. It was a tale he had told to many a rapt congregation and many a respectful interviewer on the religious networks: God had put him on Earth to perform this one task. For him it was just inconceivable that the program should end without contact with any other life form.

The fact was, though, that over two hundred fantastically expensive missions had traversed the galaxy and found no trace of any living thing. Human beings had trodden lifeless planets right across the Milky Way and now it looked as if their footprints would fill up with stardust, never to be disturbed again. We had come and taken pictures and stuck up plasticized flags, but now silence had returned, like nightfall.

I say nightfall, but of course in the solar system—in any solar system—it's really always day, except in the tiny slivers of space that lie on the lee side of planets. As we approached it in the shuttle, the galactic ship *Defiant* basked ahead of us in a perpetual noontime, an enormous cylinder half a kilometer long, covered in gigantic pylons. It was huge, but 99 percent of it was engine. The habitable portion was a cramped little cabin in the middle. We crawled through into it and breathed in the familiar space smell of dirty socks, stale urine; and potato mash. How I loved that smell! It was the smell of freedom, the smell of adventure, the smell of leaving everything behind.

"God, I'll miss this," I said as I began switching on monitors.

I've been thinking about this recently—and I've had a *lot* of time to think—and what I've come to realize is that I have always been most at home in transient, dangerous places, even before I became an astronaut. Even when I was a kid, danger was always somehow reassuring to me. Safety and security had always made me feel uneasy.

Dixon flicked the radio on to a country-music station and we settled into our positions and started running through the pre-activation procedures. Soon we'd start the ship's gravitonic engine and then we'd head out into deeper space while the engine built up power for the leap. Finally—*blam!*—we'd let it loose. In a single gigantic surge of energy it would drive us downwards in a direction that was perpendicular to all three dimensions of Euclidian space. A few seconds later, we'd bob up again like a cork. We'd be back in Euclidean space but we'd be a thousand light-years away from home.

"*The spaceman who wrecked my life,*" said the radio, "*New revelations from Yvette Schneider! Exclusively in tomorrow's Daily Lance.*"

"Poor Tommy," Mehmet said. "You can't get away from it, can you?"

Dixon gave a snort, but refrained from saying anything. He'd already told me that as far as he was concerned I had only got what I deserved. And of course he was right. I didn't expect sympathy. But I couldn't help responding to the self-righteous baying of the radio.

"There's always another side to the story," I muttered. "I behaved badly, yes. But there were things she did to hurt me too."

This was too much for Dixon.

"Tommy, you just can't . . ."

But he was interrupted by a voice from Mission Control.

"Tommy, Dixon, Mehmet, this is going to come as a shock. . . ."

It was Kate Grantham, the director of the Galaxy Project herself.

"The mission is cancelled, boys. The whole project has been terminated. Sorry, but the President has decided to pull the plug. The shuttle is coming back for you. Shut all systems down again."

"But excuse me the project has barely started!" Mehmet protested. "*Of course* we haven't found life yet. Doesn't the President know how *big* space is? The galaxy would have to be bursting at the seams with life for us to have found it already."

"The President has been thoroughly briefed," the director said shortly. "He has a number of competing priorities to consider." And she added: "The bad publicity around Tommy hasn't helped."

"Oh that *is* logical!" I burst out. "One of the explorers gets caught cheating on his wife, so cancel the exploration of the entire galaxy."

Dixon switched off the radio.

"I must say," he said, "I've never been able to understand how people can do things they *know* are wrong and then get indignant when it causes problems for them. But that's for another time. Right now, crewmates, I've got a simple proposition to make. We have power and provisions enough for one trip. Let's do it anyway!"

"Dixon!" Mehmet gave an incredulous laugh. "This isn't like you!"

"I'm quite serious," he said. "How can they stop us?"

"How about by sending an interceptor after us?" I said.

There were interceptors in Earth orbit, a dozen of them at least at any one time, looking out for illegally launched communications satellites and for the killer satellites which big business and organized crime sent up to disrupt the communications of rivals.

"It'll take them an hour to figure out what we're doing," said Dixon, "and an hour after that to decide what to do about it. By then we'll only be about six hours from the leap point."

"Yes but . . ." Mehmet stopped himself and laughed. "Okay. This is a very stupid idea. But, yes, I'm up for it if Tommy is."

I thought about the alternative. Going back to live among daily revelations of my own duplicity. Walking down a street in which every passerby knew what, *precisely*, I liked to do in bed.

"Yeah," I said. "I'm in."

They used to say there were only five people on Earth who *really* understood how a gravitonic engine works. I wasn't one of them. What I do know is that, for a few seconds, it generates an artificial gravitational field of sufficient strength to convert the space around it into the equiva-

lent of a black hole. And because it works by gravity, it can't be used too close to any large object with a gravitational field of its own. This would distort the field and would result, at minimum, in the ship emerging in a completely different place from the target area ("a completely different place" meaning in this context maybe a different galaxy, or an unknown tract of intergalactic space). At maximum it could result in the field failing to properly enclose the ship, so that the ship itself would be damaged or destroyed.

This was why, at the rate of acceleration that the *Defiant* could achieve with its Euclidean drive, it would be eight hours before we could reach a safe point to make our leap through sub-Euclidean space. It would take half that time in any case for the engine to build up a sufficient charge.

### Angela:

**P**eople laughed at me when I put myself forward for secondment to the UN's "space-cop" service. The British police forces had only been given a quota of four secondees altogether and I was only twenty-five, black, and a woman. Plus I was only an ordinary uniformed cop and had no training as a pilot beyond what I did with the air cadets at school. But then my mum and dad had always taught me to believe in myself.

Yeah and look at me now, I thought, as our interceptor passed five thousand miles above India. Who says a black girl from Peckham can't get on?

This was my third patrol. My captain Mike Tennison and I were looking for Mafia satellites, which we would either tow to destruction points or, if they were very small, nudge down into the atmosphere to burn up as billion dollar fireworks.

Mike was an air force seconded, a former fighter pilot. He was your original RAF officer: decent, sporty, stiff upper-lipped. He was a brave man, too. He'd served and won medals in two of the docu-soap wars. But something was happening to him that neither he nor anyone else could have predicted. He was becoming a cosmophobe. Space was starting to scare him stiff.

"It's a silly thing," he'd confided on our previous mission, "I've flown in all kinds of dangerous situations and never thought twice about it. I didn't think twice about this at first either. But now I can't seem to forget that out here I'm not really flying at all, I'm just constantly *falling*. Please don't tell anyone, Angela. I'll get over it, I'm sure."

But it was becoming apparent to me that he wasn't going to get over it. His face streamed with sweat. He kept wiping his hands so as to be able to grip properly on the controls. And his eyes, his weary frightened eyes, were just unbearable to look at. I was going to have to confront him about it at the end of this mission, I knew. I couldn't sweep this under the carpet any more. He was putting us both in danger.

But that was for later. Right now we were heading towards a rogue satellite which had been launched a few days ago from Kazakhstan and was now beaming thousands of new porn channels down to earth. (Funny

really, when you think about it: human beings conquer outer space and what do they use it for? Broadcasting pictures of their own rude bits.) We were just about to get close enough to actually see the thing when we received an unexpected order from ground base. The intergalactic ship *Defiant* had been hi-jacked by its own crew and they were taking it out of orbit. We were the nearest interceptor and we were to go after it, grapple it if necessary, and prevent it from making a leap.

"Jesus!" I breathed.

Mike gave a kind of groan. I realized that up to that point he'd coping by counting off the minutes until we could drop out of orbit and return to base.

But he was a professional and he set to. He located the *Defiant*, calculated a trajectory which would intercept theirs in about three and a half hours and then off we went, me leaning out of the window to stick a flashing blue light on the roof.

Well, okay, I made that last bit up.

### Tommy:

It was after we'd been going for about an hour that we became aware that we were being followed.

"It's gaining on us, too," Mehmet said.

"Shall we talk to them?" Dixon asked.

I thought we'd better not. But the others decided we should call and tell them if they didn't back off, they might get sucked down into sub-E with us when the time came to make a leap.

We were surprised to hear the voice of a self-assured young English-woman in reply.

"We'll reach you long before you get to your leap point," she said in response to our threat, "and we are certainly *not* going to back off."

Dixon winked at us.

"Listen," he radioed back, "When you get close to us, we leap, even if we're four hours short of the leap point. It's up to you."

I looked at Mehmet: "He's bluffing, yeah?"

But we should have noticed the gleam in Dixon's eye, the mad religious gleam as he turned back to watch the power monitor.

The interceptor drew closer. There was no sign of them backing off or even reducing the speed at which they were gaining on us.

"I meant what I said," Dixon told the orbit-cops.

"So did I," said the young woman who we now knew to be Sergeant Angela Young.

Dixon shrugged.

"Okay, then," he said, "here goes! God save us all."

"What?" Mehmet and I simultaneously yelled. We were still three and a half hours short of a safe leap point!

But Dixon laughed as he switched on the field.

"They will be done!" he hollered as we plunged into the pit.

Angela:

Suddenly you're plunging downwards. All the stars and everything are far above you in a little disc, and everything else is a sort of mirror. It's like when you're under water and look up and see that little circle of sky straight above you, and everywhere else it's just the silvery undersides of waves.

And your own face is there in front of you, a huge, distorted reflection of it, peering back at you from a huge distorted cabin window. Then the stars vanish altogether and something hits you like a bomb blast.

When I came around I was in the *Defiant*, and those three famous galactonauts were looking down at me guiltily like naughty little boys who've done a stupid dare that's gone wrong.

"Hi, you okay? Listen, I'm . . ."

"Where's Mike?"

"Your partner? He's okay. He's not come round yet, but he's okay. Listen, I'm Mehmet Haribey and . . ."

"... and I'm Dixon Thorley."

"... and I'm . . ."

"I know. You're Tommy Schneider. The famous stud."

My head was killing me, and I was very scared and very nauseous, but I was damned if I was going to show any sign of weakness.

"I meant to leap before you got too close to us," said Dixon, "but I must have left it too late because we pulled your craft through sub-E with us. It was badly damaged but we came over and managed to get you and your crewmate out before the pressure dropped too low."

"That was a *leap*?"

"Yeah, I'm afraid we're kind of . . ."

"So where the hell are we?"

"Well, we're . . ."

"The truth is," Mehmet said, "that we don't exactly know. We're in intergalactic space, I'm afraid, which . . . um . . . is kind of a first. But we believe that the nearest galaxy is our own. So it should still be possible to . . . um . . ."

"... to get back to Earth and not suffocate or freeze to death in space—although that is the most likely outcome. Is that how it is?"

"Well, yes, I'm afraid so," Mehmet laughed ruefully. (I grew to like him best of the three. He was a nice-looking man with natural manners, and he didn't come with a reputation either as a religious nut or a serial adulterer. I remembered seeing a photo of him in some magazine with a pretty wife by the Aegean somewhere and three or four pretty little Turkish kids.)

I nodded and looked around. The cramped little cabin was about as big as the back of a small delivery truck and it smelled like the boys' changing room at school, only much worse, but as far as we knew it was the only habitable place for thousands and thousands of light years: the only place in which a human being could be without dying in a matter of moments.

"You arseholes," I told the three of them, and I felt like a copper back on the streets of London, pulling up three silly pimply little boys. "You selfish, childish, thoughtless little arseholes."

They never had a chance to respond because suddenly Mike screamed. He'd opened his eyes and the first thing he saw was the wheel of the galaxy outside the porthole.

Tommy:

It was pure hell there for a while. The British guy hollered and roared and grabbed us and grabbed at the controls and swore and wept. I got a black eye, Mehmet got his shirt torn, Angela was yelling at us to back off and not make things even worse (but where the hell were we supposed to back off *to*?) and all of us were getting dangerously close to seeing ourselves just like the Englishman saw us: doomed to die slowly in a stuffy tin can with nothing but nothingness outside.

Eventually Dixon managed to get to the medical box and whack a sedative into the guy's ass.

"He is afraid of space," Angela explained as he slumped down.

"A space-cop who is afraid of *space*?"

Even Angela reluctantly laughed.

I'd never gone for black girls particularly before, but I found myself noticing that this was one attractive young woman. She was tough, and funny, and sharp—and she looked *great*. Maybe this was what I'd been looking for all this time, I couldn't help thinking. Maybe I'd just been looking in the wrong place . . .

Yeah, I know, I know. There we were in a damaged ship in intergalactic space and so far from home that, if we could pick out our own sun in that billion-star wheel, we'd be seeing it as it was back in the Pleistocene era—and even then I was thinking about *sex*. I guess that *is* what you call obsession.

I mean we had a month's supplies at most. Maybe six week's' oxygen.

But I caught her eye anyway and smiled at her, to let her know she was appreciated.

Angela:

It turned out that their stupid leap had not only sucked through our interceptor and turned it into scrap, it had also damaged the *Defiant* itself. Because they'd made the leap too early, the field had been pulled back in the direction of Earth—that was why Mike and I had been caught inside it—and some of the pylons at the front end of the ship had actually been left right outside the field, and so literally ceased to exist, while others further back had been bent and twisted. This was bad news. To get home from this distance would take a minimum of three or four leaps, which was pushing things at the best of times, even *without* a defective engine.

So Dixon, Mehmet, and Tommy suited up and went outside to see what repairs they could make, Tommy cheesily asking me if I was *sure* I'd be

okay minding the fort and keeping an eye on Mike. Can you believe that he'd already given me the eye several times? Was this bloke *entirely* ruled by his dick?

"I'll be okay," I said, "and I promise not to answer the phone or to let in any strangers."

Answer the phone! Even if my mum and dad could have called me up from Earth, even if there was a signal strong enough to reach this far, I'd have been dead a million years by the time it reached me.

Pretty soon all three gallant galactonauts were back. They'd been able to straighten out a few bent pylons. But now something else was on their minds and they rushed to the sensor panel and started playing around with frequencies and filters like kids with a new video game.

"There was this dark disc in front of the galaxy," Tommy explained to me. "Mehmet spotted it first . . ."

"Never seen anything like it!" Mehmet interrupted. "It was . . ."

"Here it is!" called Dixon, pointing to a screen.

He'd turned radar onto whatever it was, a solid object the size of earth, but out in intergalactic space without any kind of star anywhere near it.

"A gravitonic engine is always pulled in the direction of large objects," Mehmet explained to me. "It's called the Ballantyne effect. Your trajectory through sub-E space is always twisted in the direction of any large mass that's in the vicinity of your notional exit point. But who'd have thought we'd find any sort of object out *here* to pull us towards it?"

"So it's a planet with no sun," I said.

"Yes!" Dixon exclaimed. "No one's ever seen anything like it before."

"Well so what?" I said. "What use is it to us? Even Pluto would be hospitable by comparison with a planet that has no sun at all and Pluto is so cold it's covered with solid methane. What use is a dismal place like that?"

"Yes, Angela," Mehmet said, "but this thing *isn't* cold!"

"And it's not completely dark either!" said Tommy.

They were all over one another in their haste to show me the evidence. Somehow, even without a sun, this strange object had a surface as warm as Earth's. Seen in infrared it glowed. In fact, even in the visible spectrum it glowed, but very softly, so softly that against the blazing mass of stars it still seemed dark.

And when Dixon did the spectrometry on the starlight passing round the planet's edge, he made the most sensational discovery yet. This was a planet with breathable air.

### Tommy:

**M**ehmet, Dixon, and I had made a whole career of looking for habitable planets. And now, with very little chance of ever being able to bring the news back to Earth, it looked like we'd finally succeeded, by accident and in the least likely place imaginable.

Of course we had to go and look at it. The thing was only a few days away across Euclidean space and a short delay wouldn't make our next

leap any more or less likely to succeed. The only difficulty was Angela and Mike, but she shrugged and said okay, if she was going to die, she might as well see this first—and he was strapped to a bunk and peacefully off with the fairies.

Angela:

**T**he ship had a landing capsule stowed along its side. When we'd got the *Defiant* in orbit, we climbed into it and sank slowly down towards a surface that we could now clearly see to be gently glowing over most of its area, as if the planet was covered by a huge candle-lit city. But when we reached the ground, it turned out to be a forest: a shining forest of glowing trees and luminous pools, stretching for thousands of miles.

The trees were like gnarled oaks with warm fluorescent bark, leafless but with shining flowers along their branches. The pools and streams had flowers under the surface that glowed. And the whole forest was mild and scented like a summer evening on Earth.

"Look at that!" cried Mehmet as something bird-like with neon blue wings swept by overhead.

"Hey, come and see this!" called Dixon, squatting down to look at clumps of orange flowers like miniature sodium streetlights.

Tommy wandered off in one direction, Mehmet in another. Neither of them said where they were going, and no one asked. Dixon settled down under a tree with flowers all around him shining like Chinese lanterns. (The trunks of the trees were warm to the touch and gently pulsed.) I knelt down on the mossy banks of a nearby stream. Strange melodious cries came to us from other parts of the forest. All around us, the trees throbbed and hummed under the great wheel of the Milky Way galaxy that filled up most of the sky.

I was lying by the stream watching little shining fish-things darting around in the water when I remembered that Mike was still inside the capsule.

"Dixon," I said, "would you mind giving me a hand?"

My voice sounded very strange and looming, like when someone suddenly speaks after a long silence during a night journey in a car.

Tommy:

**A**ngela and Dixon fetched Mike down from the capsule and settled him on the ground, still fast asleep. He came round a few hours later. There was no screaming and yelling this time. He just wandered through the trees like the rest of us and found a place to sit down and stare and try and take it all in. It turned out that he was some kind of amateur naturalist back home—he went on bird-watching holidays and stuff like that with his wife and kids—and now he had a whole new set of plants and

animals to explore. It was him that came up with the theory that the trees worked like radiators, pumping water through hot rocks underground, circulating it through their branches, and warming the surrounding air.

Eventually everyone got hungry and we reconvened round the capsule for a share of the rations we'd brought down with us. We supplemented this cautiously with fruit we'd found on the trees. Most of it turned out to be good to eat.

"Isn't this great?" exclaimed Dixon, munching contentedly, his back against a warm tree-trunk. "This is what it must have been like in Eden before the Fall."

And Eden is what we decided to call it.

### Angela:

**M**ehmet was who I got on best with. He was friendly and interested and fun to be with. Dixon was okay in many ways I suppose but I was really angry with him for doing the leap when Mike and I were so close. I'm not a person that likes to hold grudges but I really did need to get some of that anger off my chest before I could get along with him—and he simply wouldn't let me. Whenever I tried to challenge him, he just said that God had told him to make the leap: the fact that we'd found Eden was proof of it.

"I'm sorry I dragged you away from your family and your friends, Angela," would have been nice, or even: "I quite understand why you're so angry."

But I wasn't going to get any of that. Instead it was: "Angela, you need to try and accept the will of God."

The will of God! The arrogant prig! It seems wrong to talk about him like that now, after what's happened, but that's how I felt at the time.

Mike, on the hand, was really sweet in this context. Free of the role of an RAF officer and free of the fear of space, he became a sort of gentle, dreamy, solitary child. Not that he wanted to talk much, or to be with the rest of us, but then he had never been much of a conversationalist.

As for Tommy, he *really* got on my nerves. He tried to be charming and helpful but he was this world-famous lady-killer and he couldn't forget it. In one way I felt that he just took it for granted that I'd want to fall and worship at his feet, yet in another way he was quite afraid of me and needed to keep testing me out all the time to see if he could get a reaction and work out where he stood with me. So he was complacent and insecure, both at the same time, a weird and seriously irritating combination.

Annoyingly, though, he was just as handsome as he'd always looked on TV, so you just couldn't help looking at him, whether you wanted to or not.

### Tommy:

**A**ngela was graceful, funny, natural. She was quite wonderful. Strand-

ed a million light-years away from home and very probably in the last days of her life, she was undefeated and unbowed.

I've been with all kinds of women in my life—models, movie stars, university professors, athletes and, yes, even whores—and I guess what everyone says about me is true in a way. Women are not just people to me: they are also a kind of addictive drug. But, and I guess this is the part that people don't understand, I really do *like* women. I mean I just like being with them, I like them as human beings. And I always have. I remember when I was five years old my teacher asked the whole class one day to pair up for a walk in the local park—and all the boys looked for other boys and all the girls looked for other girls, but I risked the ridicule of everyone to ask a girl called Susan if I could hold her hand. I remember another time I was chasing round the school yard with a bunch of boys, yelling and hollering and waving sticks around, when I noticed a bunch of girls quietly playing in a tree. And suddenly I wanted to be in their game with them, their quiet game, and not with the boys at all. That's how I felt about Angela. I just wanted her to let me join in her game.

The sad thing was, she didn't like *me* at all. Every time I tried to talk to her, she ended the conversation as quickly as she could. Whatever tack I tried with her, I could see she saw it all as some kind of trick. Yet she would sit for hours with that goddamned Turk, talking and laughing away like they'd known each other forever.

### Angela:

**W**hen we'd been there the equivalent of two or three Earth days we started to ask each other the question "What happens next?"

I wanted to know what the chances were of getting successfully back to Earth. Dixon immediately said that he had no doubt at all that God would see us safely home to bear witness to the new Eden. But Mehmet and Tommy both said that it would take at least three leaps to get back to Earth and that each leap would have no more than a 25 percent chance of success at maximum. I worked it out. A quarter of a quarter: that was a one in sixty-four chance of getting back alive. A fourth leap, which we'd quite likely need, would knock those odds down to one in two hundred and fifty-six. A fifth leap was out of the question. We didn't have the power.

"There is an alternative, though," I said. "We could stay here."

"That's true," said Tommy. "Or some of us could stay here while the others tried to get back. If they succeeded, they could send out another crew in the *Reckless* or the *Maverick*, to fetch back the ones who'd stayed."

"And if they failed, the ones who'd stayed would have to grow old and die alone," said Mehmet with a shudder. "I know it's pretty here, but to live a whole lifetime here and die here and . . ."

"Not necessarily," I said, "if I was one of the ones who stayed and one of you stayed with me, we could have babies, and then we wouldn't be alone. We could start a whole new race."

Men are funny creatures. They all visibly squirmed—and then laughed loudly to cover up their unease.

I told them I wasn't kidding. I'd stay here with any one of them, or more than one if they liked, and if the *Defiant* didn't make it back and the *Reckless* and the *Maverick* never came, I would make babies with whoever was here to make them with.

### Tommy:

I wanted to shout, "Me! I'll stay!" but I honestly wasn't sure whether I was included in the invitation. Dixon put on his religious voice and said he was married so he obviously couldn't consider her proposal. Mike and Mehmet both said they had to at least try to get back to their kids.

"How about you then, Tommy?" Angela asked.

I can tell you, I was amazed.

### Angela:

We gave them two months, two Earth months. If no one had come back for us by then, it would mean the *Defiant* had definitely failed to get through.

Two Earth months was April the eighth. The date didn't mean anything, of course, in constant Eden, which has no days or nights or sun or moon and (as it turns out) doesn't even change its own position relative to the distant galaxy. But we still followed Earth time on our watches, and hung onto some kind of notion of months and days. And we both started keeping this diary record on pocket recorders.

April the first, there was a small earthquake and a mountain appeared in the distance that we'd never seen before, illuminated by the lava streaming down its sides, way over in the direction that we decided we'd call East. A hot sulphurous wind blew from the volcano and we started to move away from it through the forest. We carried a radio beacon with us so the *Maverick* or the *Reckless* could find us if they ever came, and we made a circle of stones to mark the site of our original landing.

April the third it rained for half a day and then stopped. We sheltered in some caves in a rocky outcrop, Tommy sleeping at one end, me at the other. The caves were even more full of life than the forest outside, and Tommy came up with the idea that life on Eden must have begun in underground caves when the surface was still covered in ice. You get little pockets of geothermal life even on Earth, he pointed out, in deep caves and on the bottom of the sea beyond the reach of the sun. Life here could have begun like that and then spread upwards when it discovered how to heat its own environment. Anything that could reach the surface and melt the ice would get an advantage because it would be able to spread more quickly than was possible in underground caves.

Tommy was trying really hard to be nice to me and not to slip into his smooth lady-killer routine which he knew I hated. In fact we were weirdly formal with each other. It was such a strange position to be in. I was quite clear in my mind that if we got back to Earth I wouldn't want to have anything much to do with him again. His celebrity as such didn't impress me and as a person he really wasn't the type I chose to spend my time with.

But if no one came for us...? Well then this really would be a marriage which nothing could end but death, a marriage more total than almost any other.

The thing was that until April the eighth we didn't know which it was going to be. The decision was out of our hands.

### Tommy:

April fourth there were more eruptions from a different volcano, to the west this time, and the galaxy was half hidden for a while behind black dust. The volcano was one of another whole range of mountains that now came dimly into view in the orange light of the eruption.

We saw an animal like a small black leopard, only its spots were luminous blue and its eyes were bulbous complex things, more like the eyes of an insect than a mammal. The weird thing was that when it moved its spots could ripple backwards along its sides at exactly the same speed as its forward motion so as to create the illusion that its skin was standing still.

April fifth, I shot a pig-like animal and we skinned it and cooked it over a fire. It was the first thing we had killed, but we knew we couldn't live on fruit and space-food for much longer. It tasted of chicken, but kind of sweet and fatty, maybe a bit sickly and rich but not bad at all.

We didn't talk much, but I guess we both did a lot of thinking. I've never noticed *myself* as much as I did then. I've often been told I was selfish, self-centered and self-absorbed—by Yvette among others, though I'm not sure she was really in a position to talk—and yet I'd never reflected much before on *me*, on this strange being that happens to be myself. I'd always just *been* this person, blundering and trampling around like some kind of wounded beast, without ever thinking about who he was or why.

### Angela:

April the sixth I woke up loathing the perpetual night of Eden. It's not cold, it's not pitch dark, it looks pretty enough with its lantern-flowers, like a garden forever decked out for a midsummer night's party. But to think that there would never be a sunrise here, never a blue sky, never a clear day when you could see for miles... Never. Never. Never. For a while I felt so claustrophobic it was all I could do not to scream and scream.

Tommy and I hardly said a word. We'd said we'd wait to April the

eighth but really we knew already that no one was going to come to us, and that Mehmet and Mike and Dixon had not got through. They were dead and we were stuck here. We would never see a dawn again. We just weren't going to allow ourselves to say it.

### Tommy:

**A**pril seventh we decided to start giving names to things. I guess it was a way of taking our mind off the bigger picture. The leopard thing we called a mooncat. The little bat-like hunters we called flittermice. The peacock-like creatures with luminous stars on their tails we called starbirds.

I like the starbirds. They sit high up in the trees and pairs of them call to each other through the forest.

"Hoom—hoom—hoom," goes one.

Then the other, which may be nowhere near the first one, goes "Aaaah!—Aaaah!—Aaaah!"

That's all they've got to say, but they're happy to say it for hours and hours, gradually moving through the forest in parallel, maybe a mile or two apart from each other.

Starbirds don't know they're in Eden, I often find myself thinking. They don't know Eden is in intergalactic space. They don't know that this ground isn't the base of the universe itself. To them this is just how life is.

### Angela:

**A**nd then it was April the eighth. We were both awake watching the GMT click over from 23:59:59 to 00:00:00.

"They didn't make it," we admitted to one another at 00:05:00. "They didn't get through."

I wondered how it had ended for those three. It's possible that in mid-leap they had been swallowed up by those weird distorting mirrors of sub-E, which are really tiny, temporary universes which shrink back to nothing when the engine stops pushing them out. But I'm afraid it's more likely that the engine died on them after a leap or two and left them stranded in that smelly little box in the middle of the void, while the food and water ran out and the ship gradually grew cold and Mike's last sedative shot was finally used up. So Mike would have gone crazy and then . . .

But there was no point in thinking these thoughts, was there? There was simply no point.

I took Tommy by the hand and we went to a pool we knew and which, without ever speaking of it, we'd somehow both set aside for this moment. It was surrounded by pulsing trees. A soft cool moss grew on its banks, little bat-like flittermice swooped over the water and there always seemed to be starbirds in the vicinity, calling to each other across the forest. It

sounds romantic, but really for me it was a case of Plan A has failed so let's move quickly on to Plan B—to Plan Baby. This just seemed the best place to put it into effect.

But then again I really did feel a sort of closeness to Tommy simply because of the weird experience that just the two of us had shared, and because there were so many emotions going around in my head that passion wasn't hard to come by, and because there was never going to be anyone else to turn to *but* Tommy—or Tommy and whoever else he and I managed to make together inside my body.

After we'd done, we looked around and I noticed for the first time that there was a tree by the pool of a kind that we'd named the honey tree. Honey trees have large fruits which grow high up in their branches and are really good to eat. I've always been good at climbing trees and so I separated myself from Tommy and scrambled up to get one for us. Tommy stood up and waited for me below. I could just make him out in the soft glow of the tree's red lanterns, smiling up at me. Like a little boy, I thought, and it made me angry all of a sudden: a silly over-indulged little boy, who does silly selfish thoughtless things and expects to be instantly forgiven.

I got the fruit and clambered back down, pausing before the last bit to toss it to Tommy so I could use both hands. As I dropped to the ground beside him, Tommy, without any warning, kissed me profusely and then burst out that he loved me and that he'd loved me from the day he saw me. In fact he'd never loved *anyone* as he loved me, he told me. He hadn't known until now what love was really like.

Jesus!

Well, of course I told him not to talk crap. I mean I didn't ask to come here, did I? I didn't ask to be stuck with bloody love-rat Schneider. I didn't ask never to see my mum and my dad and my sister Kayley again, or my friends, or the sun, or green leaves, or the friendly streets of London. And if it wasn't for Tommy Schneider here and his friends I would still have had all of those things, most likely for years and years to come.

So I was angry. I ignored what he had said completely and started instead to tell him all the grimmest things I could think of about that lay ahead of us.

If we got sick here there would be no one to cure us, I told him. I told him we'd go blind one day in this dim light. I told him I could die in childbirth, die in agony and leave him alone here with nothing for company but mine and the baby's corpses. Yes, and if we *did* have children that lived, hadn't it occurred to him that when they grew up they would have to turn to each other for lovers—or to us—because there would be no one else there for them?

And I told him that after a couple of generations of inbreeding our descendants would have to cope with all the hereditary diseases and deformities that were now hidden away harmlessly in his and my genes. There's sickle cell in my family, I told him, and diabetes too and one of my aunties was born with a cleft palate. (Did Tommy Schneider know what a cleft palate looked like, or how to surgically correct it without the use of anesthetics?) All these things would become rife in a few generations, along with whatever little genetic contributions Tommy's family might have to make, assuming of course that there *were* future generations at all and that the line didn't simply die out, as was more than likely, leav-

ing some poor devil at the end of it all to face the experience of utter and final solitude in this ghostly forest where day would never come.

"This isn't some kind of happy ever after story, Tommy," I told him. "This is *very very* far from happy ever after. The best you can say for it is that it's only way we've got of going on living and finding out what happens next."

And I thought about my ancestors, my great-great-great-great-grandparents, taken from Africa in chains and dumped in the Caribbean to cut cane under a slave driver's lash. Horrific as it must have been they went on living, they stayed on to find out what would happen next. If they hadn't, I would never have been born.

Tommy nodded. He seemed quite calm about everything I'd said, which was disappointing because I wanted to upset him. I wanted to trample over his lovey-dovey daydream to pay him back for what he and his friends had done to me. They'd stolen my life from me, stolen my home, stolen everyone I loved.

"So it was all a cold calculation?" he asked, quite calmly. "You staying with me. You making out with me here beside the pool. There wasn't any feeling involved, just a clinical assessment of the situation. Is that right? Is that what you are trying to tell me?"

I'd thought a lot about this. I'd been thinking hard about it for days, weighing things up, sorting things out. Of course I didn't love the man. He didn't love me either, whatever he'd decided to tell himself. (What did he know of me, after all, except that I'm pretty and that I have a brave face I've learnt to put on as a front when I'm scared?) But there was a bond between us now, I'd decided, which in a way was much stronger than love. And love could grow from that bond, is what I'd thought, maybe not constantly like the flowers of Eden, but perhaps on a recurring basis like the flowers back on Earth.

That is what I'd decided in those strange quiet days of waiting. If we stayed on Eden there would be a bond between us of necessity, stronger perhaps than ever existed in almost any marriage on Earth—and this would reach deeper than our own particular personalities and our own particular life histories. Necessity was as deep as love and maybe deeper; that was what I had told myself, that was what I had made up my mind to believe.

But right now I still wanted to hurt him.

"A calculation?" I sneered. "Yes, that's about right, mate, a calculation. If Mehmet had stayed, it would have been him who had laid down here with me just now. If..."

But he didn't let me finish.

### Tommy:

It was bad enough to look at her up in the tree, just like I watched those girls in the tree all those years ago when I was a kid at school, wishing they would accept me into their game. It was worse when I tried to tell her how I felt and she stamped on that (just like those little girls did, come to think of it, when I asked if I could play and they all laughed at me). But it was when she mentioned Mehmet that I lost control.

"You goddamned women are all the same!" I found myself yelling at her. "You fool us, you lie to us, you twist us round your fingers. You offer us something so sweet that we'd give up everything we have just to possess it—*everything!*—and then you take it away again and trample on it, and tell us it doesn't mean anything to you at all!"

I've been told I'm ugly when I get like that. My eyes bulge and spit comes flying out of my mouth. She looked at me with disgust.

"I suppose this is what happened with all your other women," she said, speaking very quietly and coldly. "As soon as they try to inject a tiny note of reality, as soon as they admit they've noticed that Tommy Schneider isn't 100 percent perfect and that Tommy Schneider isn't the one thing they've been pining for since the day they were born, then Tommy Schneider flies into a rage and runs off to find some other woman, who doesn't know him yet, to dry his tears and take him to bed and tell him he's wonderful. That's it, isn't it? That is what always happens. Well, you've got no one else to run to now!"

"You just don't get it!" I told her. It was such an old, old script and I felt so weary and so defeated and so betrayed: "*None* of you get it. I don't *want* you to think I'm perfect. I know I'm not. I'm nothing special at all. I've never asked anything to think I'm perfect, just to make me feel that I'm wanted for what I am. Why is that so hard to understand?"

And then I grabbed her. I honestly don't know what I intended to do next. To shake her? To beat her against the ground? To rape her?

I never found out because next thing I was in the pool with those little shining fishes darting away all around me.

"I don't think I told you I was in the British national judo team," said Angela from the bank.

"No. Now that you mention it, I don't believe you did."

### Angela:

**T**here was a moment there when I really panicked. I'd made the wrong decision! I was trapped with a violent brutal man without any possibility of escape!

Then I got a hold on myself again. Don't be so silly, I told myself. You made a choice between this and death, that's all, and death will *always* be an option. (Maybe that's how my ancestors thought too, out in the cane fields? It's this or death—and death will always be there for us, death will never let us down.)

### Tommy:

**I** climbed out of the stream. My anger had vanished, the way anger does, so you wonder where it comes from and where it goes to and whether it's got anything to do with you at all.

"Since we're the entire population of this planet," I said, "I guess we've just had World War One."

That made her laugh. She took my hand again and then we lay down together again in the moss, as if nothing had happened in between.

### Angela:

"**H**oom—hoom—hoom," went a starbird deep in the forest to the south, as we pulled back from each other and lay down to rest.

I thought to myself, well there is something about him that is okay, really. And I cast back in my mind and realized that I'd read many bad things about Tommy—that he was a serial adulterer and a liar and all of that—but I'd never actually heard it said that he beat anyone up.

And I thought that, after all, I had been a fool to go straight for the place that would hurt him and frighten him the most, even though, God knows, I had a right to be angry. No one reacts well when you deliberately prod their deepest wounds. And there was some wound in Tommy, some old wound to do with love.

Of course I knew that the time would soon enough come again when I would hate him again and want to do everything in my power to hurt him. There would be a World War Two and a World War Three and a World War Four. But this peaceful place we were in now would still be there. It would be somewhere to come back to.

"Aaaah!—Aaaah!—Aaaah!" called back a second starbird, far off to the north.

"Hoom—hoom—hoom," returned the first. It had got nearer since it last called. It was just across the pool.

"They don't give a damn, those starbirds, do they?" Tommy said. "They don't even notice that great wheel burning up there in the sky. They don't give it a moment's thought."

### Tommy:

**A**ngela didn't answer. I didn't expect her to. I was just speaking my thoughts aloud.

But then, five or ten minutes later, after we'd been lying there in silence all that time looking up at the stars, she spoke:

"No they don't," she said. "You're right. This dark Eden, it's just life to them. It's just the way things are." ○

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# RWANDA

Robert Reed

Robert Reed's newest collection of short stories, *The Cuckoo's Boys*, recently came out from Golden Gryphon Press. Stories in the book that were originally published in *Asimov's* include "Savior" (August 1998), "She Sees My Monsters Now" (June 2002), and "On the Brink of that Bright New World" (January 1993). Of his latest tale he says, "I had this half-idea for a story, but I didn't know how to start it. Then under a pine tree, my three-year-old found a freshly emerged cicada . . ."

**B**eneath a mangled pine tree, you find the empty shell of a cicada, crystalline and robotic and very lovely. And beside that shell lies something even better—a bug, fat and pale and large enough to halfway fill the palm of your tiny hand. Is the bug alive? Apparently so. It doesn't breathe as you breathe, nor can those dark buggy eyes blink or wink or convey any sense of emotion. But the creature is soft and wet, and its limbs seem to move slowly in response to your little prods. A pair of wings extends from the long back, but they are shriveled and plainly useless, and your first inclination is to guess that the creature you are holding has been poisoned or burned in some horrific, wondrous fashion.

Your father sits on the patio drinking beer. Many elements go into your calculations. What time of day is it? How many cans are stacked near his bare feet? By his posture, can you read his mood, and if so, does it look as if he can endure one of your questions, and after that, maybe twenty more?

The day is still early, not even noon yet, and only three spent cans are set on the concrete slab. After you stare at him for a few moments, he notices, and something that might be a smile surfaces, followed by a clear voice asking, "What is it?"

You go to him, showing him your treasure.

He seems puzzled, but only for a moment. Then he asks, "Did you find its exoskeleton?"

That is an enormous word, but you hear a word inside it that you know. Nodding, you tell him about the cicada shell. Does he want to see that too?

"No need."

You offer the creature to him.

He acts tempted. But then some controlling urge causes him to shake his head, and he surprises you. He doesn't say, "Take it back where you found it." He doesn't say, "You should never have disturbed it." Instead, he smiles again, more warmly this time, and climbing up from the iron chair, he says, "Let's both take this fellow back. Where were you? Under the tree over there?"

The world is vast and jammed full of mysteries and things that aren't mysterious to anyone but you. If there is a smarter man than your father, you have not met him. He has books enough to cover walls and other books that come to him on the computer screen, during those hours when there is power. If he doesn't read much, it is because long ago he consumed and digested the contents of his library. And if he doesn't remember everything that he has read, at least he can go to the proper shelf and open one or two or ten books, finding an answer that will satisfy him, if not quite you.

"Nice," he says, sitting under the tree with you. Then he pops open another beer. You smell it and you can smell him. This is Friday, and there will be hot water tomorrow, at least for a few hours. Then both of you will wash up, the smell of soap defeating the other stinks for a while.

The ground is bare beneath the pine tree, except for the dead needles and some little marks made by your various sticks. In the soft tan earth, you recently drew the outline of a very simple house. Your father examines your drawing for a long moment. He sips his warm beer. He watches the big bug resting on the ground beside the tree trunk, and he stares off at nothing for a long while, finishing the can and nodding at nothing. Then without quite looking at you, he asks, "How old are you?"

He knows your age. Of course he does. But adults like to ask little questions where the answer is common knowledge. It is not so much a test as it is a means of pointing something out to children.

You recite your age.

And he nods in response, saying what he meant to say at the beginning. "You are old enough."

Old enough for what? You have no clue what he means.

"Look at that house," he tells you.

He doesn't mean the house you drew. He points across the long yard. Only recently you came to realize that this particular tree doesn't stand on your property. Father cuts both of the yards when the grass grows shaggy. But somewhere in the green middle is a line that divides what is yours from what belongs to that other house.

The house is empty. Along your street are several more just as empty, and on the street behind yours are more houses like this one. Everywhere you go in the city, vacant homes sit in shaggy lawns, weeds growing up from the cracks in their sidewalks and driveways.

"Are you looking at it?"

It is very much like your house, except bigger. The shades are down and a thick layer of grime shows on the glass. It has been your impression that no one wants you to look in those windows. But you have done it of-

ten enough to have a clear image about what is inside. Dusty furniture and darkness are inside, at least on the ground floor. And silence. And, at least for you, mysteries.

"Think of this exoskeleton," your father tells you.

Surprised, you blink and stare at the delicate empty and exceptionally fragile shell of the cicada.

"The skeleton is something like that house. It used to be a home, but now it has been left behind."

The idea sounds familiar, and then it doesn't. You aren't certain what you are hearing in these words, but more than puzzled, you are worried—your heart quickening and a tightness building in the back of your throat.

"And this pupa," your father says. "Look at it now."

The bug's wings seem to have grown larger in the last minutes. But the body is still soft and colorless, and, by all measures, exceptionally helpless.

"Biology," he says.

That single word sounds ominous and very sad.

"Genetics," he says.

Again, you want to shiver, though you can't decide why.

"What if people were the same as this insect?" he asks. Then before you can make a sound, much less offer a weak answer, he adds, "What if they lived as one thing for a very long time, and then they passed through a sudden transformation, coming out the other side to discover that they weren't people anymore?"

All you can do is nod, your stomach pulling itself into a stubborn knot.

"What we believe happened...our best guess derived from hard evidence and quite a lot of informed conjecture . . . is that somebody wanted

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to colonize the Earth." Your father shakes his head and grins, as if astonished by his own words. "Aliens, I mean. Extraterrestrials. Creatures that must have been similar to humans, both in body and in their ecological niche. They must have sent out robotic probes, probably in the remote past, and sometime after they discovered our world, the aliens mounted a second expedition that brought their colonists here."

You think of the proud rockets in his books and the flashy, muscular starships in the old comics that you read.

But he doesn't let you think about starships for long. "Space is huge," he warns. "The distances are too great to imagine, and even a tiny payload is very difficult to move from sun to sun. And every voyage, even with the best engines, will take centuries, if not many, many thousands of years."

He asks, "How can you colonize a distant world for a cheap, reasonable price?"

Then he shakes his head, answering his own question. "There is no reasonable price, of course. That's the point I'm making here."

You try hard, but you cannot follow his logic.

"No reasonable price," he repeats, "yet there is a relatively cheap method to conquer a new world. Imagine that you can shrink each of your brave colonists down to where they are smaller than ants. Shriveled them down to the size of dust mites, say. All the information necessary to replicate each of them is contained inside one of these tiny storage devices, and for the sake of argument, let's say there are millions of them onboard the colony ship. How big would that starship have to be, do you think?"

No guess is correct.

Your father grins, warning you, "You know, your bed has millions of dust mites. They live on it and inside it, on the sheets and blankets and pillow cases."

He says, "Hundreds of millions of colonists could ride inside a vessel no bigger than this."

The empty beer can, he means.

"When you read history, you'll see. You'll see. The successful colonists are those who travel light and make what they need when they arrive." He crushes his can and sets it beside the half-born cicada. "The invaders came with the tools necessary to build new homes for themselves. And by homes, I mean bodies. Familiar, workable bodies holding brains large enough to contain all of their memories and thoughts and desires. That's what their robot probes had found in the first expedition, we think. I think. Not just a living world, but they found a world offering a common species that could be claimed for their own important selves.

"Human beings, I mean.

"Of course."

Your father pauses for a long, long while.

Then softly, sadly, he describes how the tiny starship would strike the Earth and rip apart, scattering its dusty contents across the high dry stratosphere. The colonists could drift undetected, perhaps for many years, riding the cold winds until they were everywhere. Then they would dive into the lower atmosphere, latching rides on raindrops and down-

drafts, descending onto the innocent humans who were going about their own little lives.

A mite-sized colonist would enter its host through the lungs or stomach, and in short order, ride the bloodstream up to the brain.

The only symptoms were a mild fever and odd aches, and sometimes, a harmless red rash. And then after a few days, the sick human would drift into a deep sleep that would last until his mind had been rewritten and reborn.

But the new colony had one considerable weakness. When the first expedition examined the Earth, there were barely one hundred million humans. The aliens assumed that the population would grow, but no more than five-fold, which was why only half a billion colonists made the long journey.

"The invaders had no choice but to be less than 10 percent of the population," your father explains. "Instead of dominating their new world, they were a minority, and not a well-received minority, as it happened. . . ."

The cicada's wings are even larger now.

He says, "The natural first conclusion was that some horrible new disease was running wild. The disease would leave its victims confused and possibly brain damaged. Which explained why those poor people spoke nonsense after they woke. And why they were clumsy at first, walking with the same slow, careful shuffle. And that also gave a reason why they didn't seem to recognize friends and family. They had suffered a profound neurological shock. As a precaution, the first couple million victims were quarantined inside hospitals and public buildings, and doctors worked for days to find the virus or bacteria responsible. But there was nothing to find, since of course this was no simple disease. And then teams of specialists, in Atlanta and in Switzerland, noticed that their patients were speaking the same precise gibberish, and the patients seemed to understand what was being said."

He shakes his head for a moment. "More people were falling ill every day," he explains. "Two million victims quickly became twenty million, and there weren't enough hospital beds for everyone. People tried to cope with shuffling, muttering spouses. Or babbling children. And then after a few days of rest and practice, the supposedly sick people would suddenly leave their homes, meeting at predetermined places where they could discuss their circumstances and make plans.

"For a while, nothing made sense.

"For two weeks, the public was terrified but ignorant. The rate of infection continued to rise, and rise. No one was sure how many people would eventually catch the soul-robbing disease. And then suddenly, on the fifteenth day, the truth was learned."

Your father takes a deep breath and holds it, and then he exhales, admitting, "Everybody knew somebody who had died. Everybody had a neighbor or loved one who had been replaced by some kind of creature that was nothing like the dead soul. Linguists had deciphered the new language, and with the help of military interrogators, they held their first and only interviews with the aliens.

"We just wanted a place to live,' the invaders said. 'Please, give us a chance to make up for this,' they begged. 'We can live with you and be

good neighbors. We can offer you technological wonders, for free, and within a few years, your world will be wealthy beyond your most optimistic dreams.'

"That's what they claimed, speaking to the specialists with their new mouths. Residing inside the bodies they had stolen from their rightful owners.

"Which leads to the obvious question: how can you trust a creature that has so willingly and easily killed the mind of a helpless host?"

Again, your father needs a deep breath.

"The decision was inevitable," he says. "And by necessity, the work had to be completed quickly, with whatever tools were on hand."

You say nothing, finding yourself staring off at the empty house.

"The call for action came from everywhere," your father tells you with a hard sorry voice. "It came from the government, and it came from important individuals in the media. And every neighborhood had some loud demanding voice that explained what was necessary now. A cleansing. A purge. And since the disease rate was still accelerating, and since anybody with a mild fever or a slight red rash could be infected, thus dangerous . . . well, it was impossible to be generous or patient, and very quickly, kindness was forgotten entirely."

He lowers his face.

"Suppose," he says. "Suppose somebody in your family was sick, but you couldn't accept her fate. Because people got the flu all the time, and you had to let the disease run its course, if you were going to be sure one way or the other. But then, what if your neighbors heard that she was sick and came to deliver the cure? You told the others to leave or you would fight with them. Because she was your wife and your only true love. You weren't ready to give up hope yet. You promised that you would watch over her for now, and you told them that you had a gun, even when you didn't. But then they broke down the front door and pushed their way upstairs to the bedroom. Your neighbors, they were. Friends for years, in some cases. And you were reduced to screaming insults and promising revenge for what they were doing with their shotguns and garden shovels. . . !"

You aren't looking at the empty house now.

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Instead you stare at your own home, and in particular, the upstairs window that always has its shade pulled closed. A room that you have never been inside, not even once.

"Ten percent," says your father.

Then he almost seems to laugh with a bitter, acidic tone. "The world can surrender 10 percent of its population and not miss a beat. Or nearly so. But nothing that swift or large can ever be that simple and clean. I mean, what happens when rumors start? When one authority figure stands before a news camera, mentioning in passing, 'We're worried about aliens hiding, drifting inside unsuspecting hosts.' Not that there was evidence of that happening. There has never been. The mite-sized bodies had drifted to the ground together, and those that hadn't found hosts were soon destroyed by free oxygen and simple erosion. But if you have already invested the last week of your life killing these invaders, then it is natural to be cautious. It is perfectly understandable if you want to take care of those who might be a problem at some later date."

You stare at the maturing cicada.

"And of course, the aliens fought back. Not in an organized fashion or with much effect . . . but they did manage to kill three or four humans for every ten of them who perished . . . which means millions more were dead, and the people who lived felt even angrier and more desperate. . ."

The cicada kicks its jointed legs, and the swelling wings begin to tremble, as if eager to fly away.

"And then," your father says. His mouth is open but he pauses for a moment before asking again, "What if you were a person for a very long time, and then suddenly you passed through some enormous event, and on the other side you discovered that you weren't really human anymore?"

What does he mean by that?

"In history," he says, "this metamorphosis happens with numbing regularity. The Holocaust. Cambodia. And Rwanda, to name three."

Three what?

"There are many good reasons to murder," he assures you.

Then he looks toward the empty house, explaining, "She had a light fever and a bit of a sunburn, and that's all she had. But they killed her anyway. Hacked her body to pieces and left the pieces in our bed. And then a couple weeks later, when the death rate was approaching 50 percent, some despairing soul pried open the back door of that house over there and knifed two people to death." Then he looks at you, and with the mildest voice, he says, "Don't believe what you hear. Revenge really can help heal the deepest hurts."

You say nothing.

With a finger and thumb, your father picks up the almost-born cicada, and he stands, placing it on the highest branch that he can reach.

Then he looks down at you. "And even the angriest inhuman soul can be kind," he says. "Even splattered with blood, he can do something that is right and good. Do you know what I mean? Two people are dead in their own bed, and between them lies a baby . . . and for all the evils walking free in the world, one good impulse can save that child's very little life. . . ." ○

**ALIENS CAPTURED ME,  
IMPLANTED ALIEN COOKIES  
IN MY BRAIN, USED ANAL PROBES,  
LEFT ME NAKED IN A CORNFIELD,  
AND ALL I GOT WAS THIS T-SHIRT**

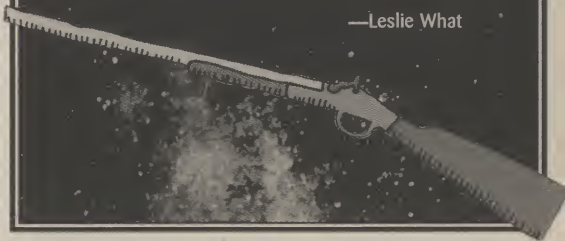
Tonight—a calm Northwest eve, geyser warm, with starry skies that belie the horror of last night, when my head was set afire, left to burn, flames like brain locusts devouring a field planted with memories.

The steampunk hum of swamp mosquitoes, a whispering whine, ebbs and flows, retreats beneath hoots steady as a clock strike, the call of the Great White Owl haunting my barn, who seeks out beady-eyed creatures of night.

I sit, twelve-gauge at my side, hoping to save you, dearest wife, from my unspeakable fate, from those ET pervs who know by now they have erred, that they needed a breeder pair, and without you, I'm worthless.

Don't think me silly, don't scoff if, in the terror of dark, I mistake Farmer Joe's sheep for an enemy invader; it's never easy recognizing enemies from friends, and your refusal to believe me suggests only that the aliens got to you first.

—Leslie What



# DEAD MEN WALKING

Paul J. McAuley

Paul J. McAuley lives in London, where he spends too much time looking at a computer screen instead of taking the kind of long walks in drenching rain and fog that gave Charles Dickens all his ideas. Paul's latest novel is *Mind's Eye*, published by Simon & Schuster (UK), and he's currently working on novels about parallel Americas, murder in Oregon, and the moons of Saturn. "Dead Men Walking" is part of the "Quiet War" series of stories, which also included "The Passenger" (*Asimov's*, March 2002) and "The Assassination of Faustino Malarte" (*Asimov's*, July 2002).

I guess this is the end. I'm in no condition to attempt the climb down, and in any case I'm running out of air. The nearest emergency shelter is only five clicks away, but it might as well be on the far side of this little moon. I'm not expecting any kind of last-minute rescue, either. No one knows I'm here, my phone and the distress beacon are out, my emergency flares went with my utility belt, and I don't think that the drones patrol this high. At least my legs have stopped hurting, although I can feel the throb of what's left of my right hand through the painkiller's haze, like the beat of distant war drums. . . .

If you're the person who found my body, I doubt that you'll have time to listen to my last and only testament. You'll be too busy calling for help, securing the area, and making sure that you or any of your companions don't trample precious clues underfoot. I imagine instead that you're an investigator or civil servant sitting in an office buried deep inside some great bureaucratic hive, listening to this out of duty before consigning it

to the memory hole. You'll know that my body was found near the top of the eastern rimwall of the great gash of Elliot Graben on Ariel, Uranus's fourth-largest moon, but I don't suppose you've ever visited the place, so I should give you an idea of what I can see.

I'm sitting with my pressure suit's backpack firmly wedged against a huge block of dirty, rock-hard ice. A little way beyond my broken legs, a cliff drops straight down for about a kilometer to the bottom of the graben's enormous trough. Its floor was resurfaced a couple of billion years ago by a flood of water-ice lava, a level plain patched with enormous fields of semi-vacuum organisms. Orange and red, deep blacks, foxy umbers, bright yellows . . . they stretch away from me in every direction for as far as I can see, like the biggest quilt in the universe. This moon is so small and the graben is so wide that its western rim is below the horizon. Strings of suspensor lamps float high above the fields like a fleet of burning airships. There's enough atmospheric pressure, twenty millibars of nitrogen and methane, to haze the view and give an indication of distance, of just how big this strange garden really is. It's the prison farm, of course, and every square centimeter of it was constructed by the sweat of men and women convicted by the failure of their ideals, but none of that matters to me now. I'm beyond all that up here, higher than the suspensor lamps, tucked under the eaves of the vast roof of transparent halflife polymer that tents the graben. If I twist my head I can glimpse one of the giant struts that anchor the roof. Beyond it, the big, blue-green globe of Uranus floats in the black sky. The gas giant's south pole, capped with a brownish haze of photochemical smog, is aimed at the brilliant point of the sun, which hangs just above the western horizon.

Sunset's three hours off. I won't live long enough to see it. My legs are comfortably numb, but the throbbing in my hand is becoming more urgent, there's a dull ache in my chest, and every breath is an effort. I wonder if I'll live long enough to tell you my story . . .

All right. I've just taken another shot of painkiller. I had to override the suit to do it, it's a lethal dose . . .

Christos, it still hurts. It hurts to laugh . . .

My name is Roy Bruce. It isn't my real name. I have never had a real name. I suppose I had a number when I was decanted, but I don't know what it was. My instructors called me Dave—but they called all of us Dave, a private joke they never bothered to explain. Later, just before the war began, I took the life of the man in whose image I had been made. I took his life, his name, his identity. And after the war was over, after I evaded recall and went on the run, I had several different names, one after the other. But Roy, Roy Bruce, that's the name I've had longest. That's the name you'll find on the roster of guards. That's the name you can bury me under.

My name is Roy Bruce, and I lived in Herschel City, Ariel, for eight and a half years. Lived. Already with the past tense . . .

My name is Roy Bruce. I'm a prison guard. The prison, TPA Facility 898, is a cluster of chambers—we call them blocks—buried in the eastern rim of Elliot Graben. Herschel City is twenty clicks beyond, a giant cylin-

drical shaft sunk into Ariel's icy surface, its walls covered in a vertical, shaggy green forest that grows from numerous ledges and crevices. Public buildings and little parks jut out of the forest wall like bracket fungi; homes are built in and amongst the trees. Ariel's just over a thousand kilometers in diameter and mostly ice; its gravity barely exists. The citizens of Herschel City are arboreal acrobats, swinging, climbing, sliding, flying up and down and roundabout on cableways and trapezes, nets and ropewalks. It's a good place to live.

I have a one-room treehouse. It's not very big and plainly furnished, but you can sit on the porch of a morning, watch squirrel monkeys chase each other through the pines . . .

I'm a member of Sweat Lodge #23. I breed singing crickets, have won several competitions with them. Mostly they're hacked to sing fragments of Mozart, nothing fancy, but my line has good sustain and excellent timbre and pitch. I hope old Willy Gup keeps it going . . .

I like to hike too, and climb freestyle. I once soloed the Broken Book route in Prospero Chasma on Miranda, twenty kilometers up a vertical face, in fifteen hours. Nowhere near the record, but pretty good for someone with a terminal illness. I've already had various bouts of cancer, but retroviruses dealt with those easily enough. What's killing me—what just lost the race to kill me—is a general systematic failure something like lupus. I couldn't get any treatment for it, of course, because the doctors would find out who I really am. What I really was.

I suppose that I had a year or so left. Maybe two if I was really lucky.

It wasn't much of a life, but it was all my own.

Uranus has some twenty-odd moons, mostly captured chunks of sooty ice a few dozen kilometers in diameter. Before the Quiet War, no more than a couple of hundred people lived out here. Rugged pioneer families, hermits, a few scientists, and some kind of Hindu sect that planted huge tracts of Umbriel's sooty surface with slow-growing lichenous vacuum organisms. After the war, the Three Powers Alliance took over the science station on Ariel, one of the larger moons, renamed it Herschel City, and built its maximum security facility in the big graben close by. The various leaders and lynchpins of the revolution, who had already spent two years being interrogated at Tycho, on Earth's Moon, were moved here to serve the rest of their life sentences of reeducation and moral realignment. At first, the place was run by the Navy, but civilian contractors were brought in after Elliot Graben was tented and the vacuum organism farms were planted. Most were ex-Service people who had settled in the Outer System after the war. I was one of them.

I had learned how to create fake identities with convincing histories during my training; my latest incarnation easily passed the security check. For eight and half years, Roy Bruce, guard third class, cricket breeder, amateur freestyle climber, lived a quiet, anonymous life out on the fringe of the Solar System. And then two guards stumbled across the body of Goether Lyle, who had been the leader of the Senate of Athens, Tethys, when, along with a dozen other city states in the Outer System, it had declared independence from Earth.

I'd known Goether slightly: an intense, serious man who'd been writing some kind of philosophical thesis in his spare time. His body was found in the middle of the main highway between the facility and the farms, spreadeagled and naked, spikes hammered through hands and feet. His genitals had been cut off and stuffed in his mouth; his tongue had been pulled through the slit in his throat. He was also frozen solid—the temperature out on the floor of the graben is around minus one hundred and fifty degrees Centigrade, balmy compared to the surface of Ariel, but still a lot colder than the inside of any domestic freezer, so cold that the carbon dioxide given off by certain strains of vacuum organisms precipitates out of the atmosphere like hoar frost. It took six hours to thaw out his body for the autopsy, which determined that the mutilations were post-mortem. He'd died of strangulation, and then all the other stuff had been done to him.

I was more than thirty clicks away when Goether Lyle's body was discovered, supervising a work party of ten prisoners, what we call a stick, that was harvesting a field of vacuum organisms. It's important to keep the prisoners occupied, and stoop labor out in the fields or in the processing plants leaves them too tired to plan any serious mischief. Also, export of the high-grade biochemicals that the vacuum organisms cook from methane in the thin atmosphere helps to defray the enormous cost of running the facility. So I didn't hear about the murder until I'd driven my stick back to its block at the end of the shift, and I didn't learn all the gruesome details until later that evening, at the sweat lodge.

In the vestigial gravity of worldlets like Ariel, where you can drown in a shower and water tends to slosh about uncontrollably, sweat lodges, saunas, or Turkish-style hamams are ideal ways to keep clean. You bake in steam heat, sweat the dirt out of your pores, scrape it off your skin, and exchange gossip with your neighbors and friends. Even in a little company town like Herschel City, there are lodges catering for just about every sexual orientation and religious belief. My lodge, #23, is for unattached, agnostic heterosexual males. That evening, as usual, I was sitting with a dozen or so naked men of various ages and body types in eucalyptus-scented steam around its stone hearth. We scraped at our skin with abrasive mitts or plastered green depilatory mud on ourselves, squirted the baking stones of the hearth with water to make more steam, and talked about the murder of Goether Lyle. Mustafa Sesler, who worked in the hospital, gave us all the grisly details. There was speculation about whether it was caused by a personal beef or a turf war between gangs. Someone made the inevitable joke about it being the most thorough suicide in the history of the prison. Someone else, my friend Willy Gup, asked me if I had any idea about it.

"You had the guy in your stick last year, Roy. He have any enemies you know of?"

I gave a noncommittal answer. The mutilations described by Mustafa Sesler were straight out of my training in assassination, guerrilla tactics, and black propaganda. I was processing the awful possibility that Goether Lyle had been murdered by someone like me.

You must know by now what I am. That I am not really human. That I

am a doppelgänger who was designed by gene wizards, grown in a vat, decanted fully grown with a headful of hardwired talents and traits, trained up, and sent out to kill the person whose exact double I was, and replace him. I do not know how many doppelgängers, berserkers, suicide artists, and other cloned subversives were deployed during the Quiet War, but I believe that our contribution was significant. My target was Sharwal Jah Sharja, a minor gene wizard who lived alone in the jungle in one of the tented crevasses of East of Eden, Ganymede, where he orchestrated the unceasing symphony of the city-state's closed loop ecosystem. After I took his place, I began a program of ecotage, significantly reducing the circulation of water vapor and increasing the atmospheric concentration of carbon dioxide and toxic trace gases. By the time the Quiet War kicked off, some four weeks later, the population of East of Eden was wearing breathing masks, the forests and parks were beginning to die, and most food animals and crops *had* died or were badly stricken, forcing the city to use biomass from vacuum organism farms to feed its citizens. A commando force of the Three Powers Alliance annexed East of Eden's farms in the first few hours of the war, and after two weeks its starving citizens agreed to terms of surrender.

I was supposed to turn myself in as soon as the city had been secured, but in the middle of the formal surrender, dead-enders fanatics assassinated half the senate and attacked the occupying force. In the subsequent confusion, the tented crevasse where I had been living was blown open to vacuum, Sharwal Jah Sharja was posted as one of the casualties, and I took the opportunity to slip away. I have successfully hidden my true identity and lived incognito amongst ordinary human beings ever since.

Why did I disobey my orders? How did I slip the bonds of my hardwired drives and instincts? It's quite simple. While I had been pretending to be Sharwal Jah Sharja, I had come to love life. I wanted to learn as much about it as I could in the brief span I'd been allotted by my designers. And so I adopted the identity of another casualty, and after the war was over and the Three Powers Alliance allowed trade and travel to resume, I left East of Eden and went out into the Solar System to see what I could see.

In all my wanderings I have never met any others like me, but I did find a hint that at least one of my brothers and sisters of the vat had survived the war. All of us had been imprinted with a variety of coded messages covering a vast range of possibilities, and a year after going on the run I came across one of them in a little-used passageway between two chambers of the city of Xamba, Rhea.

To anyone else it was a meaningless scrawl; to me, it was like a flash of black lightning that branded an enciphered phone number on my brain. The walls of the passageway were thickly scribbled with graffiti, much of it pre-war. The message could have been left there last year or last week; it could have been a trap, left by agents hunting renegades like me. I didn't have the nerve to find out. I went straight to the spaceport and bought a seat on a shuttle to Phoebe, the gateway port to the other moons of Saturn and the rest of the Outer System. Six months later, wearing the new identity of Roy Bruce, I became a guard at TPA Facility 898.

That's why, almost nine years later, I couldn't be certain that any of my

brothers and sisters had survived, and I was able to convince myself that Goether Lyle had been the victim of the vicious internal politics of the prison, killed and mutilated by someone who knew about the black propaganda techniques in which we'd been trained. But that comforting fiction was blown apart the very next day, when another mutilated body was found.

The victim was a former senator of Baghdad, Enceladus, and a member of the prison gang that was intermittently at war with the gang to which Goether Lyle had belonged. A message written in blood on the ground next to the senator's body implied that he'd been murdered by Goether Lyle's cronies, but whoever had killed him must have done the deed in his cell some time between the evening count and the end of the night's lockdown, spirited his body out of the facility without being detected, and left it within the field of view of a security camera that had been hacked to show a recorded loop instead of a live feed. Members of the rival gangs lived in different blocks, had chips implanted in their skulls that constantly monitored their movements, and in any case were under lockdown all night. If the killer was a prisoner, he would have had to bribe more than a dozen guards; it was far more likely that the senator had been killed by one of the facility's staff. And when I heard what had been done to the body, I was certain that it was the handiwork of one of my brothers or sisters. The senator had been blinded before he'd been strangled, and his lungs had been pulled through incisions in his back. It was a mutilation called the Blood Eagle that had been invented by the Vikings some two thousand years ago. I remembered the cold, patient voice of the instructor who had demonstrated it to us on a corpse.

Someone in the warden's office reached the same conclusion. Posted at the top of our daily orders was an announcement that a specialist team was on its way to Ariel, and emergency security measures were put in place at the spaceport. That evening Willy Gup told the sweat lodge that the warden reckoned that it was possible that the two murders were the work of the kind of vat-grown assassin used in the Quiet War.

"So if you come across anything suspicious, don't be tempted to do anything stupidly heroic, my brothers. Those things are smart and deadly and completely without any kind of human feeling. Be like me. Stay frosty, but hang back."

I felt a loathsome chill crawl through me. I knew that if Willy and the others realized that one of "those things" was sitting with them in the steamy heat of the lodge, they would fall on me at once and tear me limb from limb. And I knew that I couldn't hang back, couldn't let things run their course. No one would be able to leave Ariel for the duration of the emergency security measures, and the specialist team would search every square centimeter of the facility and Herschel City, check the records and DNA profile of every prisoner, member of staff, citizen and visitor, and release a myriad tiny halflife drones designed to home in on anyone breathing out the combination of metabolic byproducts unique to our kind. The team would almost certainly uncover the assassin, but they would also unmask me.

Oh, I suppose that I could have hiked out to some remote location on the surface and hunkered down for the duration, but I had no idea how long the search would last. The only way I could be sure of evading it would be to force my pressure suit put me in deep hibernation for a month or two, and how would I explain my absence when I returned? And besides, I knew that I was dying. I was already taking dangerously large daily doses of steroids to relieve the swelling of my joints and inflammation of my connective tissue caused by my pseudo-lupus. Suspended animation would slow but not stop the progress of my disease. Suppose I never woke up?

I spent a long, bleak night considering my options. By the time the city had begun to increase its ambient light level and the members of the local troop of spider monkeys were beginning to hoot softly to each other in the trees outside my little cabin, I knew what I would have to do. I knew that I would have to find the assassin before the team arrived.

My resolve hardened when I started my shift a couple of hours later and learned that there had been two more murders, and a minor riot in the prison library.

I found it laughably easy to hack into the facility's files: I had been trained well all those years ago, and the data system was of a similar vintage to my own. To begin with, I checked the dossiers of recently recruited staff, but I found nothing suspicious, and didn't have any better luck when I examined the dossiers of friends and family of prisoners, their advocates, and traders and businesspeople currently staying in Herschel City. It was possible that I had missed something—no doubt the assassin's cover story was every bit as good as the one that had served me so well for so long. But having more or less eliminated the obvious suspects, I had to consider the possibility that, just like me, the assassin had been hiding on Ariel ever since the war had ended. I had so much in common with my brothers and sisters that it would not be a wild coincidence if one of them had come to the same decision as I had, and had joined the staff of the prison. Perhaps he had finally gone insane, or perhaps the hard-wired imperatives of his old mission had kicked in. Or perhaps, like me, he had discovered that he was coming to the end of his short life span, and had decided to have some fun. . . .

In the short time before the specialist team arrived, it would be impossible to check thoroughly the records of over three thousand staff members. I had reached a dead end. I decided that I needed some advice.

Everyone in Herschel City and the prison was talking about the murders. During a casual conversation with Willy Gup, I found it easy enough to ask my old friend if he had any thoughts on how someone might go about uncovering the identity of the assassin.

"Anyone with any sense would keep well clear," Willy said. "He'd keep he'd nose clean, he'd keep his stick in line, and he'd wait for the specialists."

"Who won't be here for a week. A full-scale war could have broken out by then."

Willy admitted that I had a point. One of the original intake of guards, a veteran who'd served in one of the Navy supply ships during the Quiet

War, he had led the team that put down the trouble in the library. Three prisoners had died and eighteen had been badly injured—one had gouged out the eyes of another with her thumbs—and the incident had left him subdued and thoughtful. After studying me for a few moments, he said, "If it was me, I wouldn't touch the files. I hear the warden is compiling a list of people who are poking around, looking for clues and so forth. He tolerates their nonsense because he desperately wants to put an end to the trouble as soon as he can, and he'll be pretty damn happy if some hack does happen to uncover the assassin. But it isn't likely, and when this thing is over you can bet he's going to come down hard on all those amateur sleuths. And it's possible the assassin is keeping tabs on the files too. Anyone who comes close to finding him could be in for a bad surprise. No, my brother, screwing around in the files is only going to get you into trouble."

I knew then that Willy had a shrewd idea of what I was about. I also knew that the warden was the least of my worries. I said, as lightly as I could, "So what would you do?"

Willy didn't answer straight away, but instead refilled his bulb from the jar of iced tea. We were sitting on the porch of his little shack, at the edge of a setback near the top of the city's shaft. Banana plants and tree ferns screened it from its neighbors; the vertical forest dropped away on either side. Willy's champion cricket, a splendid white and gold specimen in a cage of plaited bamboo, was trilling one of Bach's Goldberg Variations. Willy passed the jar to me and said, "We're speaking purely hypothetically."

"Of course."

"You've always had a wild streak," Willy said, "I wouldn't put it past you to do something recklessly brave and dangerously stupid."

"I'm just an ordinary hack," I said.

"Who goes for long solitary hikes across the surface. Who soloed that route in Prospero Chasma and didn't bother to mention it until someone found out a couple of years later. I've known you almost nine years, Roy, and you're still a man of mystery." Willy smiled. "Hey, what's that look for? All I'm saying is you have character, is all."

For a moment, my hardwired reflexes had kicked in. For a moment, I had been considering whether or not this man had blown my cover, whether or not I should kill him. I carefully manufactured a smile, and said that I hadn't realized that I seemed so odd.

"Most of us have secrets," Willy said. "That's why we're out here, my brother. We're just as much prisoners as anyone in our sticks. They don't know it, but those dumbasses blundering about in the files are trying to find a way of escaping what they are."

"And there's no way you can escape what you are," I said. The moment had passed. My smile was a real smile now, not a mask I'd put on to hide what I really was.

Willy toasted me with his bulb of tea. "Anyone with any sense learns that eventually."

"You still haven't told me how you would catch the assassin."

"I don't intend to catch him."

"But speaking hypothetically . . ."

"For all we know, it's the warden. He can go anywhere and everywhere, and he has access to all the security systems too."

"The warden? Really?"

Willy grinned. "I'm pulling your chain. But seriously, I've done a little research about these things. They're not only stone killers: they're also real good at disguising themselves. The assassin could be any one of us. The warden, you, me, anyone. Unless this thing makes a mistake, we haven't got a hope of catching it. All we can do is what we're already doing—deploy more security drones, keep the prisoners locked down when they aren't working, and pray that that'll keep a lid on any unrest until that team arrives."

"I guess you're right," I said.

"Don't try to be a hero, my brother. Not even hypothetically."

"Absolutely not," I said.

But one of Willy's remarks had given me an idea about how to reach out to the assassin, and my mind was already racing, grappling with what I had to do.

I decided that if the assassin really was keeping an eye on the people who were hacking into the files, then he (or at least, his demon), must be lurking in the root directory of the data system. That was where I left an encrypted message explaining what I was and why I wanted to talk, attached to a demon that would attempt to trace anyone who looked at it. The demon phoned me six hours later, in the middle of the night. Someone had spotted my sign and wanted to talk.

The demon had failed to identify the person who wanted to talk, and it was infected with something, too: a simple communication program. I checked it out, excised a few lines of code that would have revealed my location, and fired it up. It connected me to a blank, two-dimensional space in which words began to appear, emerging letter by letter, traveling from right to left and fading away.

*>>you got rid of the trace function. pretty good for an old guy—if that's what you really are.*

*>they trained us well, I typed.*

*>>you think you know what i am. you think that i am like you.*

Whoever was at the other end of the program wanted to get straight down to business. That suited me, but I knew that I couldn't let him take the lead.

*>we are both children of the vat, I typed. that's why I reached out to you. that's why i want to help you.*

There was a pause as my correspondent thought this over.

*>>you could be a trap.*

*>the message got your attention because it is hardwired into your visual cortex, just as it is hardwired into mine.*

*>>that kind of thing is no longer the secret it once was, but let's say that i believe you . . .*

A black disc spun in the blank space for less than a second, its strobing black light flashing a string of letters and numbers, gone.

>>*do you know where that is?*

I realized that the letters and numbers burnt into my brain were a grid reference.

>*i can find it.*

>>*meet me in four hours. i have a little business to take care of first.*

It was the middle of the night; the time when the assassin did his work.

>*please don't kill anyone else until we have talked.*

My words faded. There was no reply.

The grid reference was at the precise center of a small eroded crater sixty clicks south of the facility, an unreconstructed area in the shadow of the graben's eastern rimwall. Before I headed out, I equipped myself from the armory and downloaded a hack into the security system so that I could move freely and unremarked. I was oddly happy, foolishly confident. It felt good to be in action again. My head was filled with a fat, contented hum as I drove a tricycle cart along an old construction road. The rendezvous point was about an hour away: I would have plenty of time to familiarize myself with the terrain and make my preparations before the assassin, if that was who I had been talking to, turned up.

I want to make it clear that my actions were in no way altruistic. The only life I wanted to save was my own. Yes, I knew that I was dying, but no one loves life more than those who have only a little of it left; no one else experiences each and every moment with such vivid immediacy. I didn't intend to throw away my life in a grand gesture. I wanted to unmask the assassin and escape the special team's inquisition.

The road ran across a flat terrain blanketed in vacuum-cemented grey-brown dust and littered with big blocks that over the eons had been eroded into soft shapes by impact cratering. The rimwall reared up to my left, its intricate folds and bulges like a frozen curtain. Steep cones and rounded hills of mass-wasted talus fringed its base. To my right, the land sloped away toward a glittering ribbon of fences and dykes more than a kilometer away, the boundary of the huge patchwork of fields. It was two in the morning by the clock, but the suspensor lamps were burning as brightly as they always did, and above the western horizon the sun's dim spark was almost lost in their hazy glow.

I was a couple of clicks from the rendezvous, and the road was cutting through a steep ridge that buttressed a great bulge in the rimwall, when the assassin struck. I glimpsed a hitch of movement high in a corner of my vision, but before I could react, a taser dart struck my cart and shorted its motor. A second later, a net slammed into me, slithering over my torso as muscular threads of myoelectric plastic tightened in constricting folds around my arms and chest. I struggled to free myself as the cart piddled to a halt, but my arms were pinned to my sides by the net and I couldn't even unfasten the safety harness. I could only sit and watch as a figure in a black pressure suit descended the steep side of the ridge in two huge bounds, reached me in two more. It ripped out my phone, stripped away my utility belt, the gun in the pocket on the right thigh of my pressure suit and the knife in the pocket on the left thigh, then uncoupled my main air supply, punched the release of my harness and dragged me out

of the low-slung seat and hauled me off the road. I was dumped on my back near a cart parked in the shadow of a house-sized block and the assassin stepped back, aiming a rail-gun at me.

The neutron camera I'd fitted inside my helmet revealed scant details of the face behind the gold-filmed mirror of my captor's visor; its demon made an extrapolation, searched the database I'd loaded, found a match. Debra Thorn, employed as a paramedic in the facility's infirmary for the past two years, twenty-two, unmarried, no children. . . . I realized then that I'd made a serious mistake. The assassin was a doppelgänger, all right, but because she was the double of someone who hadn't been an adult when the war had ended she must have been manufactured and de-canted much more recently than me. She wasn't insane, and she hadn't spent years under cover. She was killing people because that was what she'd been sent here to do. Because it was her mission.

A light was winking on my head-up display—the emergency short-range, line-of-sight walkie-talkie. When I responded, an electronically distorted voice said, "Are you alone?"

"Absolutely."

"Who are you?"

I'd stripped all identifying tags from my suit before setting off, but the doppelgänger who had killed Debra Thorn and taken her place was pointing a gun at my head and it seemed advisable to tell her my name. She was silent for a moment, no doubt taking a look at my file. I said, "I'm not the doppelgänger of Roy Bruce, if that's what you're thinking. The person I killed and replaced was a gene wizard by the name of Sharwal Jah Sharja."

I briefly told the assassin the story I have already told you. When I was finished, she said, "You've really been working here for eight years?"

"Eight and a half." I had made a very bad mistake about my captor's motives, but I must have piqued her curiosity, for otherwise I would already be dead. And even if I couldn't talk my way out of this and persuade her to spare me, I still had a couple of weapons she hadn't found . . . I risked a lie, said that her net had compromised my suit's thermal integrity. I told her that I was losing heat to the frozen ground, that I would freeze to death if I didn't get up.

She told me I could sit up, and to do it slowly.

As I got my feet under me, squatting on my haunches in front of her, I glanced up at the top of the ridge and made a crucial triangulation.

She said, "My instructors told me that I would live no more than a year."

"Perhaps they told you that you would burn briefly but very brightly—that's what they told me. But they lied. I expect they lied about a lot of things, but I promise to tell you only the truth. We can leave here, and go anywhere we want to."

"I have a job to finish."

"People to kill, riots to start."

The assassin took a long step sideways to the cart, took something the size of a basketball from the net behind its seat, bowled it toward me. It bounced slowly over the dusty ground and ended up between my legs: the

severed head of an old woman, skin burnt black with cold, eyes capped by frost.

"The former leader of the parliament of Sparta, Tethys," the assassin said. "I left the body pinned to the ground in one of the fields where her friends work, with an amusing little message."

"You are trying to start a war amongst the prisoners. Perhaps the people who sent you here are hoping that the scandal will close the facility. Perhaps they think it is the only chance they'll have of freeing their comrades. Who are you working for, by the way?"

"I'll ask the questions," the assassin said.

I asked her how she would escape when she was finished. "There's a special team on the way. If you're still here when they arrive, they'll hunt you down and kill you."

"So that's why you came after me. You were frightened that this team would find you while they were hunting me."

She may have been young, but she was smart and quick.

I said, "I came because I wanted to talk to you. Because you're like me."

"Because after all these years of living amongst humans, you miss your own kind, is that it?"

Despite the electronic distortion, I could hear the sneer in the assassin's voice. I said carefully, "The people who sent you here—the people who made you—have no plans to extract you when you are finished here. They do not care if you survive your mission. They only care that it is successful. Why give your loyalty to people who consider you expendable? To people who lied to you? You have many years of life ahead of you, and it isn't as hard to disobey your orders as you might think. You've already disobeyed them, in fact, when you reached out to me. All you have to do is take one more step, and let me help you. If we work together, we'll survive this. We'll find a way to escape."

"You think you're human. You're not. You're exactly like me. A walking dead man. That's what our instructors called us, by the way: the dead. Not 'Dave.' Not anything cute. When we were being moved from one place to another, they'd shout out a warning: 'Dead men walking.'"

It is supposed to be the traditional cry when a condemned person is let out of their cell. Fortunately, I've never worked in Block H, where prisoners who have murdered or tried to murder fellow inmates or guards await execution, so I've never heard it or had to use it.

The assassin said, "They're right, aren't they? We're made things, so how can we be properly alive?"

"I've lived a more or less ordinary life for ten years. If you give this up and come with me, I'll show you how."

"You stole a life, just as I did. Underneath your disguise, you're a dead man, just like me."

"The life I live now is my own, not anyone else's," I said. "Give up what you are doing, and I'll show you what I mean."

"You're a dead man in any case," the assassin said. "You're breathing the last of your air. You have less than an hour left. I'll leave you to die here, finish my work, and escape in the confusion. After that, I'm supposed to be picked up, but now I think I'll pass on that. There must be

plenty of people out there who need my skills. I'll work for anyone who wants some killing done, and earn plenty of money."

"It's a nice dream," I said, "but it will never come true."

"Why shouldn't I profit from what I was made to do?"

"I've lived amongst people for more than a decade. Perhaps I don't know them as well as I should, but I do know that they are very afraid of us. Not because we're different, but because we're so very much like a part of them they don't want to acknowledge. Because we're the dark side of their nature. I've survived this long only because I have been very careful to hide what I really am. I can teach you how to do that, if you'll let me."

"It doesn't sound like much of a life to me," the assassin said.

"Don't you like being Debra Thorn?" I said.

And at the same moment, I kicked off the ground, hoping that by revealing that I knew who she was I'd distracted and confused her, and won a moment's grace.

In Ariel's microgravity, my standing jump took me high above the assassin's head, up and over the edge of the ridge. As I flew up, I discharged the taser dart I'd sewn into the palm of one of my pressure suit's gloves, and the electrical charge stored in its super-conducting loop shorted out every thread of myoelectric plastic that bound my arms. I shrugged off the net as I came down and kicked off again, bounding along the ridge in headlong flight toward the bulging face of the cliff wall and a narrow chimney pinched between two folds of black, rock-hard ice.

I was halfway there when a kinetic round struck my left leg with tremendous force and broke my thigh. I tumbled over hummocked ice and caught hold of a low pinnacle just before I went over the edge of the ridge. The assassin's triumphant shout was a blare of electronic noise in my ears; because she was using the line-of-sight walkie-talkie I knew that she was almost on me. I pushed up at once and scuttled toward the chimney like a crippled ape. I had almost reached my goal when a second kinetic round shattered my right knee. My suit was ruptured at the point of impact, and I felt a freezing pain as the smart fabric constricted as tightly as a tourniquet, but I was not finished. The impact of the kinetic round had knocked me head over heels into a field of fallen ice-blocks, within striking distance of the chimney. As I half-crawled, half-swam toward it, a third round took off the top of a pitted block that might have fallen from the cliffs a billion years ago, and then I was inside the chimney, and started to climb.

The assassin had no experience of freestyle climbing. Despite my injuries I soon outdistanced her. The chimney gave out after half a kilometer, and I had no choice but to continue to climb the naked iceface. Less than a minute later, the assassin reached the end of the chimney and fired a kinetic round that smashed into the cliff a little way above me. I flattened against the iceface as a huge chunk dropped past me with dreamy slowness, then powered straight through the expanding cloud of debris, pebbles and icegrains briefly rattling on my helmet, and flopped over the edge of a narrow setback.

My left leg bent in the middle of my thigh and hurt horribly; my right

leg was numb below the knee and a thick crust of blood had frozen solid at the joint. But I had no time to tend my wounds. I sat up and ripped out the hose of the water recycling system as the assassin shot above the edge of the cliff in a graceful arc, taser in one hand, rail gun in the other. I twisted the valve, hit her with a high-pressure spray of water that struck her visor and instantly froze. I pushed off the ground with both hands (a kinetic round slammed into the dusty ice where I'd just been), collided with her in midair, clamped my glove over the diagnostic port of her backpack, and discharged my second taser dart.

The dart shorted out the electronics in the assassin's suit, and enough current passed through the port to briefly stun her. I pushed her away as we dropped toward the setback, but she managed to fire a last shot as she spun into the void beyond the edge of the setback. She was either phenomenally lucky or incredibly skillful: it took off my thumb and three fingers of my right hand.

She fell more than a kilometer. Even in the low gravity, it was more than enough to kill her, but just to make sure I dropped several blocks of ice onto her. The third smashed her visor. You'll find her body, if you haven't already, more or less directly below the spot where you found mine.

The assassin had vented most of my air supply and taken my phone and emergency beacon; the dart I'd used on her had crippled what was left of my pressure suit's life support system. The suit's insulation is pretty good, but I'm beginning to feel the bite of the cold now, my hand is growing pretty tired from using the squeeze pump to push air through the rebreather, and I'm getting a bad headache as the carbon dioxide concentration in my air supply inexorably rises. I killed the ecosystem of East of Eden by sabotaging the balance of its atmospheric gases, and now the same imbalance is killing me.

Just about the only thing still working is the stupid little chip I stuck in my helmet to record my conversation with the assassin. By now, you probably know more about her than I do. Perhaps you even know who sent her here.

I don't have much time left. Perhaps it's because the increasing carbon dioxide level is making me comfortably stupid, but I find that I don't mind dying. I told you that I confronted the assassin to save myself. I think now that I may have been wrong about that. I may have gone on the run after the Quiet War, but in my own way I have served you right up until the end of my life.

I'm going to sign off now. I want to spend my last moments remembering my freestyle climb up those twenty kilometers of sheer ice in Prospero Chasma. I want to remember how at the end I stood tired and alone at the top of a world-cleaving fault left over from a shattering collision four billion years ago, with Uranus tilted at the horizon, half-full, serene and remote, and the infinite black, starry sky above. I felt so utterly insignificant then, and yet so happy, too, without a single regret for anything at all in my silly little life. ○

# COMPANION TO OWLS

Chris Roberson

Chris Roberson's first novel, *There & Everywhere*, was published by Pyr last year spring. In the fall, he edited an original anthology, *Adventure: Vol 1* for his small-press, MonkeyBrain Books. His next two novels, *The Voyage of Night Shining White* (PS Publishing) and *Paragaea: A Planetary Romance* (Pyr), will be out sometime this year. In addition, his short-fiction sales include stories to *Live Without a Net*, *The Many Faces of Van Helsing*, *FutureShocks*, and *Electric Velocipede*. The author's new tale about a strange expedition across the roof of an immense cathedral is his second story for *Asimov's*. You can visit Chris online at [www.chrisroberson.net](http://www.chrisroberson.net).

**H**is name was Steeplejack North, the former because a steeple jack was his profession, the latter because the northernmost Steeple of the Cathedral was his responsibility. No one knew his christening name. It was unclear whether he knew it himself.

The Cathedral, a hulking edifice, covered thousands of square miles, dominating the western extremities of the continent. The North Steeple, rising up above the Basilica of the Lost Matriarch, towered some miles into the air, its highest point breaking into the upper reaches of the atmosphere, piercing the firmament itself. When Steeplejack North was called upon to repair and maintain the highest reaches, pressure suits and breathing apparatuses were the order of the day.

North lived on the Roof, in a shack on the leeward side of the Basilica's western cupola. From his portico he could see the gentle slope as the Cathedral's ribs angled down towards the cornices and gargoyles which demarked the boundary between Roof and the Northern Wall. In amongst the sculpted grotesqueries and outcroppings fluttered the gonfalons, ensigns, and bannerets of a hundred dozen sects and cults, but one would have to be a hagiologist to be able to identify what each represented. North's father had been an adherent of Saint Osip, patron of Western Roofmen, while as a prentice in the steeple-jack trade his master had

been a follower of the Holy Serpentine. North, for his part, was something of a pantheist, and if he worshiped anything, it was the sky, and the Roof, and the towering majesty of the North Steeple.

Steeplejack North spent most of his year alone. Occasionally he would pass a chimney-sweep, or a carillonneur, or prentice to some other steeple jack on his journeyman tour of the Roof's far reaches, but the vast majority of his days were spent alone. Alone, that is, if one discounted the owls that roosted in the Steeple's lower reaches, and the revenants.

Just as the architecture of the Cathedral tended to draw a supplicant's eyes and attention from their worldly concerns—up past the buttresses and arches, up to the steeples and spires, and finally to the heavens above, where so many gods and demiurges were said to reside—the architecture likewise had a tendency to ensnare the attentions of the recently deceased, like glittering baubles catching the black eyes of magpies, and as the shades of the dead drifted in their slow courses towards their eventual rewards, some found themselves snagged on the culverts and gutters, entangled by the exotic design of masonry and metalwork, and were caught, trapped between one world and the next, unable to go forward or back. These unfortunates were known as revenants, and they were the bane of a Roofman's existence.

It was fortunate for the men of the Roof that, on a biennial basis, a psychopomp arrived to address the problem. The psychopomp, conductor of the souls of the departed, followed his route through all the districts and provinces of the Cathedral, the circuit taking him two full years. Once every eight seasons he appeared at the outskirts of North's region of the Roof, and rid the steeple jack of the noisome revenants.

A psychopomp was always a pietist of some stripe, a mystes inducted into the inner knowledge of some mystery faith or another. The psychopomp who had visited North Steeple in his courses, these long years, was a follower of the Cult of the Nameless—an ill-defined deity, the prayers to which were so general as to serve in virtually all circumstances. What induced the psychopomp to adhere to what was regarded as a distasteful faith, North never knew, nor did he care to ask. He and the psychopomp, though they had seen each other once every other year for over a decade, had never progressed beyond the most perfunctory of pleasantries. North fed the psychopomp from his own larder, and housed him within his shack, as custom demanded, and all he asked in return was that the howling, stinking shades be flushed out and away. The North Steeple would be left in silence for a season or two, at least until the concentration of revenants, eidolons, and ghosts of the dead ensnared by the architecture grew too dense again, and then North would soldier through in bitter silence until the psychopomp again appeared.

For some of the shades, though, the prayers to the Nameless were insufficient. These persistent revenants were usually thought to be the shades of adherents to forgotten faiths, or those who worshiped discredited gods, or who in one way or another practiced singular rites. Whatever the reason, in those instances, a specialist was needed.

It was just past the Winter Solstice, some weeks since the psychopomp

last made his way to the North Steeple on his annual rounds. The psychopomp had taken only a fortnight to clear out the shades of the dead, ushering them on their way to whatever rewards awaited them, towards whatever sphere or plane or ancestral abode their faith promised them. After the psychopomp had gone, though, there were still revenants remaining. At least half a dozen, clinging tenaciously to this mortal sphere, refusing to relinquish their hold on the Steeple. One of the lingering revenants was the shade of a young woman. She had haunted this region of the Roof for nearly two years, and she disquieted Steeplejack North in ways he'd not before imagined.

North had caught a few glimpses of her, since the psychopomp departed. All of the other shades were noisome, foul creatures, rotting corpses hovering between solid and incorporeal states, trailing noxious odors, and howling their disquieting songs. The revenant of the young woman, though, seemed a shade of a different type. In her visitations, she appeared well formed and whole, and while the scent of her passing had the musty smell of mould and rot, it was nothing so offensive as that of the others. North had seen her most often in the upper reaches of the steeple, wrapped in veils that drifted around her like wispy cirrus clouds around the moon. She didn't howl like the others, but hummed some forgotten tune that North thought he might once have known, long before, when he was a babe in arms and bore another man's name.

In his small shack, on the leeward side of the western cupola, he sometimes dreamt about the young woman, and in his dreams her gauzy vestments were blown away by some ethereal wind, and she was left standing before him, unadorned and unblemished. Steeplejack North, who had never known the touch of a woman, or of a man for that matter, woke from these dreams with his undergarments cemented to his belly with seminal fluid, sticky like caulk or thin glue.

In his darker moments, his stomach full of quivers and his tongue thick in his mouth, North thought he wouldn't mind if the shade of the young woman were to tarry in his region, if only for the fleeting glimpses he was granted of her beauty. But the other half-dozen lingering revenants were the foulest that he'd yet encountered, shrieking fiends that came upon him while he dangled from a tether in the higher altitudes, or while he crept along a narrow ledge with trowel in hand, or was down on his hands and knees clearing a griffin's nest out of a storm drain. That he had so far escaped primarily unscathed from these encounters, and had not tumbled down to a messy death, thousands of feet below, could only be attributed to blind luck, or to the providence of some unknown god who took pity on the Lenten Roofman. But North could not count on luck, or the felicity of unknown gods, for much longer. He would need to call in a specialist.

North caught one of the homing owls that roosted near his shack, and affixed to its clawed foot a small canister containing his request for assistance. Then he fed the bird a special strain of millet, bred by the Sostren of the Vegetative Cloisters to compel flight to centralized message depots before returning home, and set the owl free in the mouth of an air-vent near the cupola's base.

A month later, while North was polishing a spar on the eastern face of the Steeple, the necromancer arrived.

North welcomed the necromancer into his home, as he was accustomed to receiving the psychopomp. The necromancer was from downbelow, a native of Middle Floors, and had never before been up on the Roof. While North prepared a simple meal for them both, and endeavored to exchange what pleasantries seemed appropriate, the necromancer continuously glanced through the open door at the Roof beyond, blanching. He complained of the thin air and chill, when North inquired after his health, and retired to a cot in the corner of the shack as soon as the meal was concluded. North could not imagine why anyone would be disquieted by the peaceful open spaces of the Roof, especially one accustomed to the cramped, confined Middle Floors.

North had once traveled down below the rafters as far as the Middle Floors, when he was invested as a master steeple jack by the Castellan, but he hadn't felt at ease until he was back up on the Roof, with only the open sky above his head. He'd felt confined and claustrophobic below the rafters, even when he'd passed through chambers large enough to support their own micro-climates—he'd weathered a brutal storm in an immense gallery filled with statues, ikons, and votives, finding what shelter he could beneath a pew, passing the time in dismal conversation with a palmer on a pilgrimage from the far distant Basement, whose manner was inscrutable and strange.

Come the morning, the necromancer was ready to begin his journey up the Steeple, to exorcise the remaining revenants. North, eager to return to his regular rounds, was dismayed when the necromancer demanded that North accompany him on his ascent. The necromancer, unaccustomed as he was to these climes and altitudes, insisted that he would be unable to make the journey unaccompanied, and that if North did not agree to be his guide, he would return to downbelow immediately, leaving North and his lingering revenants to go hang.

North, seeing little choice, outfitted himself for the expedition.

Their journey around the circumference of the Steeple took several days, slowing winding their way from the base to a point some thousands of feet above the Roof. Luckily for them, most revenants shied from the highest reaches, and so pressure suits and breathing apparatuses were not needed. Even so, the necromancer frequently complained about the thin air, and insisted that North carry along a store of bottled air for his frequent consumption.

The first night out, as they ate their simple meal, their backs to the soothing stones of a chimney, warmed by smoke carried up from hundreds of feet below, they caught sight of ercinee birds, whose feathers glow with a brilliant bioluminescence and whose cry is unsettlingly like that of human children. The necromancer drew strange symbols in the air in front of him, abjuring foul spirits, while North laughed behind a gloved hand. Like all Roofmen, North knew that it was an auspicious sign to catch sight of ercinee at the beginning of a journey; it meant that both weather and fortune would favor the traveler. To see an ercinee on the return trip, however, meant that bad news awaited the traveler back at home.

The next morning, working their way around the wide circumference of the Steeple, the necromancer startled a harpy in her nest, and nearly toppled from the path in fright of her immense raptor's body and eerie

woman's head. If North had not caught the back of his fuliginous robes, the necromancer would have fallen hundreds of feet to the Roof below. As it was, he and the necromancer could only weather the harpy's righteous caws of indignation, and edge their careful way around her territory. The necromancer offered North brusque thanks, and they continued on their way.

That afternoon, they passed a carillonneur rappelling down the side of the Steeple. He and North had encountered one another a time or two over the last decade, and were on friendly terms. The carillonneur had gone above to make repairs to a wheel high in the bell tower, and was on his way back down to his barrack, just a few miles to the south of North's own shack. The carillonneur, the necromancer, and North shared a meal together, in the shade of a buttress. The two Roofmen swapped stories and anecdotes of acquaintances they had in common, as men of the Roof always do on meeting—this being the only way that news travels in these high places—while the necromancer kept silent, sitting some distance away. When they had finished eating, the carillonneur refastened his harness to his line, and, with a wave and a brief word, dropped over the side of the ledge and out of sight. North and the necromancer continued on their way.

That night, the skies clear and the moon a sliver overhead, they could see the lights of a minaret atop the Chancel, far on the eastern extremity of the Cathedral. North had never met an Eastern Roofman, but he'd heard stories of their savagery, and of their strange customs and beliefs. In the East, it was said, it was forbidden for a Roofman to grow hair upon his face or head, and the flesh of the owl was taboo. They shared their women in common, the stories held, and no man knew who his father might be. Thinking to fill the silence with pleasant talk, North asked the necromancer if he knew these tales, and if he gave them any credit. The necromancer, however, knew nothing of the customs and traditions of the Roofman who dwelt directly above him all his life—North himself was as strange a creature as the Eastern Roofmen were to North—and so the conversation withered, and they passed the rest of the night in silence.

On the third day of their journey, they reached the territory favored by the first of the lingering revenants. The necromancer began his dread work.

On the sixth day, they came upon a nest of yllerion birds, a mother and a clutch of eggs. While the necromancer did his unsettling rites—exorcising a revenant that stank of rotting flesh and offal, and which howled like a man on fire—North crept near the nest of the yllerion, and managed to prize away two eggs, narrowly escaping losing a finger to the wicked beak of the bird.

That night, for their evening meal, North prepared the eggs while the necromancer tested the air using a powder he'd fashioned in retort and alembic. By the time the eggs were fit for consumption, the necromancer had determined that only a single lingering revenant remained. Another day, and their work would be done.

They'd not yet encountered the young woman's shade, which haunted North's dreams. This last, he knew, would be hers. North slept fitfully

that night, on the narrow shelf, the towering Steeple to one side and the open maw of empty air on the other.

The next morning, they turned a curve in the path spiraling up the Steeple, and caught sight of an enormous serpent, drowsing in the shade of an overhanging bartizan. North had never seen the like, but the necromancer identified it as a lindworm. It was a massive thing, larger than any creature North had ever seen, larger even than the roc he'd once sighted alighting on the West Steeple. The lindworm lay coiled around an outcropping of spars and spires, hundreds of feet in length, its scaly skin an unsettling milky white shade, a crest of red rising on its narrow, diamond-shaped head. Its eyelids were closed, and even from a distance of some yards, North could see the steady rise and fall of its long ribcage as the serpent drew steady breath.

North grabbed the necromancer by the back of his dark robe, and dragged him to safety beyond the curve of the Steeple. They would need to find another route to the next level, perhaps by entering the body of the Steeple itself through a service conduit, and ascending from within.

The necromancer, though, had other ideas. He had hit upon a plan. He outlined it, in brief, and it was the most North had ever heard him speak.

The necromancer asked North whether he knew of the Draconce, or dragon-stone, and North allowed that he did. The Draconce, a white stone found within the skulls of still living dragons, was a prize rarer than rubies, more valuable than chalcedony, beryl, or chrysoprase. The Draconce was said to resonate with the thoughts of the serpent, and if removed before the beast's mind had gone dim, it retained the elemental power of those deep, ancient thoughts. Dragon-stones were prized not only for their beauty—which was considerable—but also for more arcane and occult properties of their nature, proving useful in augury, divination, and summonings.

If North and the necromancer were to subdue the lindworm and retrieve the Draconce from its still-living mind, the necromancer held, they could sell it to a thaumaturge for a pocket full of specie. They would be wealthy beyond the dreams of avarice for the balance of their days.

As North mulled this over in his thoughts, considering the risks and benefits, the necromancer's ambition outpaced his words. Suppose, the necromancer suggested, the pair of them were to keep the Draconce for themselves? The autarchs of the eastern continent, he had heard it said, wear Draconces as jewelry, which both mark their immense wealth, but also safeguard their position and power, through some agency. If two such humble men as the necromancer and North were to come into possession of such a precious jewel, just think how their positions in life might change. Just think, the necromancer said, of the heights they might reach.

North looked up at the spires of the North Steeple, disappearing into the thin reaches of the high atmosphere overhead. He knew of no greater heights.

North was for following a different route to the upper reaches or, better yet, ending their expedition there and then, returning to the roof and leaving the single remaining revenant for some other time—the Roofman

did not mention his unsettling affection for the shade of the young woman. The necromancer was adamant, though, and inveigled North with his honeyed words. He promised wealth, and position, and power. In the end, North agreed to the necromancer's scheme, if only to stop the barrage of entreaties. This course, at least, would keep the young woman's shade safe, for the time being.

Once the necromancer had convinced North of the need to retrieve the Draconce, it fell to the Roofman to contrive a way to accomplish this end. North considered their options, and devised a suitable plan.

They would capture one of the yllerion birds whose nest they'd passed, tether it, and use it as bait to lure the lindworm out from under the bartizan. Once the serpent was in the open air, they could use North's implements of work to bash the lindworm's skull in, and then retrieve the Draconce from its still-living mind before its last thought had fled.

They captured the yllerion, though the necromancer was little help in the task, leaving the steeple jack to brave the mother-bird's beak and claws—North's face and arms were covered with scratches and beak-marks before they were through. They lashed its vicious beak closed, and then tethered its feet to a long length of rappelling cable. Then they ascended the innards of the steeple for the distance of a half a league, making their slow and steady way up through the scaffolding and spiraling stairwells that made up the skeleton of the spire. They emerged in the thin air—they could still breathe, but were high enough that their lungs worked double to keep their blood fueled with oxygen—where the wind was so cold that their fingers cramped into gnarled claws at their sides, even within their heavy down-lined leather gloves. They then descended the Steeple until they reached the bartizan beneath which the lindworm slumbered.

The necromancer loosened the bindings around the yllerion's beak, and then dangled the bird over the promontory of the bartizan. The yllerion, making up in its tempestuous calls and squawks the time lost in silence, drew the attention of the lindworm, which slowly began to uncoil from its shaded sanctuary, its diamond-shaped head gradually snaking out into the bright sunlight, angling towards the bird. The yllerion's black eyes seemed to reflect the death it saw coming for it, and it redoubled its squawking and flapping. The lindworm lunged forward, catching the bird in its powerful jaws, and just as its diamond head had cleared the overhanging bartizan, North stabbed downwards with a metal stave as tall as himself, piercing the lindworm's body just behind the head, impaling it. The lindworm thrashed like a fish on a hook, but North kept his hold on the stave, his teeth gritted. Just when North felt he could hold out no longer, the lindworm thrashed once with a final shudder, and then went still.

The necromancer and Steeplejack North descended carefully to the level where they had lowered the body of the lindworm. The necromancer, red-faced and sputtering, accused North of killing the lindworm, of ruining the dragon-stone within its mind and losing them a fortune in the balance. North cautioned the necromancer to bide awhile, and laid a gloved hand on the thick, scaly hide of the great serpent. It still rose and fell, slowly. There was life within, but it was faint. The beast was para-

lyzed and stunned, bleeding out its life blood, but it was not dead. Not yet.

The necromancer was no help—again—in the next stage. North used a heavy spanner to crack the thick skull of the beast, then applied clippers and a pruning hook to cut away the epidermis and the thick, grey matter of the lindworm's still-living brain. North didn't know what thoughts might still be coursing through the serpent's mind that his knife was interrupting. He preferred not to know. Finally, the innards of the lindworm's skull steaming in the chill air, he plunged his hands within, and pulled out a white, translucent gem the size of a child's fist.

North looked up, the Draconce in his hands, and found the necromancer aiming a silver-filigreed pistolet at him. The necromancer, teeth bared and eyes widened, stared down the barrel of the firearm at the Roofman, crazed with greed.

The necromancer told North to hand over the Draconce, or he would shoot. North refused, and said that the necromancer would shoot him anyway, as soon as he handed over the dragon-stone. The only reason North was still standing was that if the necromancer shot now, North might tumble over the side of the Steeple and fall thousands of feet below, and the Draconce would be lost.

The necromancer would not discuss matters further. He thumbed back the hammer on the pistolet, and told North that he was willing to take the chance, if need be. If North did not hand over the Draconce immediately, the necromancer would fire, and they would both be forced to deal with the consequences.

North tensed, unwilling to hand over his own leverage, unsure whether the necromancer was as desperate as he seemed. His thoughts raced, trying to find a way out of his predicament.

The necromancer seemed to tense, and his finger tightened on the pistolet's trigger. Before the hammer fell, though, his eyes suddenly went wide, and he screamed like one of the revenants he'd exorcised over the previous days; an inhuman, primal howl. He staggered to one side, arms flailing before him, and fell over the side of the ledge, tumbling down to the Roof, hundreds and hundreds of feet below. He disappeared from view into a foggy haze, as clouds passed below.

North was still on his knees, the Draconce still in his gore-coated hands, and he could not imagine what had come over the necromancer. What had saved the Roofman, in the last instant—fortune, or the providence of unknown gods? Then his nostrils caught a musty scent of mould and rot, and he could hear on the thin wind a tune he thought he might have known, when he was very young, and bore another man's name. Wispy cirrus clouds, almost like veils, passed by the corner of his eye, and then he was left alone.

North descended to the Roof, a slow journey of days, back to his shack on the leeward side of the western cupola. He cleaned and polished the Draconce, and set it up on the mantle over his stove. He watched it, in the flickering light of the guttering candles, and that night, he dreamt of the woman of the high steeple in her gauzy veils, and, for a brief time, at least, he wasn't alone. ○

David Ira Cleary tells us, "I was no doubt destined to become a science fiction writer, as my dad went to the same high school as Ed Bryant, and my mom went to the same high school as Connie Willis. I grew up in Colorado, but have spent my adult life in San Francisco, working as a technical writer and, for a while, as the story-writer for an online game company. In 1998, the Sci-Fi Channel filmed my story 'All Our Sins Forgotten' for an episode of their series *Welcome to Paradox*." More recently, Dave has sold stories to *Interzone* and *Flytrap*. In his first tale for us in over fifteen years, he explores a strange world of tomorrow and what it may mean to be . . .

# THE KEWLEST THING OF ALL

David Ira Cleary

**H**ow is Bonny Brood? She's happy as a kitten lapping milk. She's dreaming her recurring dream, the pleasant one where she runs alone on a beach, moonlit sea beside her, surf regular and course flat as if the sand's been groomed. But then there's a tickle, on her side, and she wakes. Silk sheets, wool blankets, and the persistent tickle on her right side, which she realizes after a sleep-dulled moment is a private skin zone that someone is clicking. Her ex Simon, or one of the Clique, or—she sits up, her skin offline-dark as the sheets fall, snaps the fingers of her right hand—Terrance.

His face stares at her from her right palm.

"Too late to call?"

Her left thumbnail shines a green 3:15 AM. "Of course not." Her middle-finger microcam is on, glowing red indicator like a pinpricked drop of blood, and she realizes: he can see her body. She pulls the blanket up. There's only pale skin from her clavicles to just above her navel: a blank

slate. Nonkewl and ultrablank! Unlike Terrance. "My feet are keeping me awake," she says. "I've installed windows into my soles."

It's such a lame joke he doesn't even pretend to laugh. "Good for you!" Or maybe his soles *are* windowed just liked the rest of him. He's got a third eye, blue, in his forehead, a Vandyke beard that cycles between green and purple on his chin, and on his right cheek a little naked man talking into an ancient black phone handset. When his head is shaved he plays windows in his scalp but his ginger-colored hair is half an inch long and his head is dark. His real eyes are a piercing brown that makes her shiver. "I encourage your progression!"

The funny way Terrance can phrase things makes her think he's EU, based in Bucharest or something. "Could you recommend downloads I can walk on?"

"Later! I have bigger agenda items for you tonight!"

"Hip me."

"First, you know Orinda?"

She curls her fingers toward her palm, making Terrance's third eye seem to squint. "Little town across the Bay?"

"Yes! A woman has just moved there from SoCal. She is branded—but her Corporation has been dissolved! Her product line has been shut down! She has made an appointment with Steward International for re-branding!"

"If she's Stewardizing, what good are we for?" Bonny asks.

"What good? We are the *nexus* of good!" Bonny feels a tickle on her left forearm. She wraps her blankets around her like a halter top so she can see what Terrance is streaming to her arm without exposing herself. She sees a black-haired woman sitting at a desk eating crackers. The woman is tanned and double-chinned, large enough that even Bonny with her Bay Area tastes tags her big. She can only imagine what Angelenos would call her. "Her name's Katelyn Sayed. She was genetically branded for a pharmaceutical called Sovelte. It regulated a gustatory process that kept her at the slender end of normal until a year ago!" The picture changes to show a skinny woman playing tennis on a summer's day, Bonny's arm going itchy the way her skin can do when streaming something bright. "Then the company belly-upped! Kaputed!"

"Nobody picked up the product?" she asks.

"Of course not, for so many reasons! It was too boutique to be profitable! The FDA banned it as emotionally coercive!" His beard vanishes. "But the reason of primacy—our society is one of consumption! Not one of anticonsumption!"

"That's true chew," she says. "So Katelyn's going to Stewardize, right?"

"She has an appointment at the San Francisco store tomorrow afternoon at 1 PM."

"I'll meet her outside."

"No coercion! Gentle persuasion!"

A year ago Bonny Brood had tackled a potential client; she'd been arrested but *that* woman had declined to press charges. The handcuffs had cracked a wire in Bonny's left wrist, leaving her palm the blue of a video screen in boot-up mode. It had been a bad time all around. Bonny had to

pay to fix her wrist herself, and, since the woman became Stewardized instead of kewltured, Terrance credited Bonny's bank account just 10 percent of her usual wage. Not that *money* is important. "I'm all about gentleness," Bonny says.

"Much goodness! I'm dumping to you the pertinent details!" Thumbnail shots of Katelyn Sayed at various ages crowd her left arm. Biographical text links cuff her wrist—gently. "Now the second agenda item. Barstow, CA!"

"Not an easy boat ride from San Fran," Bonny said.

Terrance's beard reappears, unrealistic: a glossy brown seeming to drip, like hot fudge, from his lower lip past his chin and to his Adam's apple. "Peek at your left palm!" he says.

She sees a shiny multifaceted thing like a diamond. It's more complicated, though, and asymmetrical, and seems to contain dark wiggling impurities. "This is Barstow?"

"This is my house in Barstow. Click it!"

She taps a wiggling thing in her palm.

It expands to show her and Terrance dancing, free-form and sweaty, at the center of a group of dancers. Clearly meant to flatter: everyone is watching them together.

"Come to Barstow for my party! All the Clique will be there!"

What is the Clique? A hundred faces, a hundred names, a hundred locations around the globe. And: a hundred bodies, occupying Bonny Brood's right arm. Most gray, meaning offline or asleep. But two of them are bright, multicolored, motile, and talkative at this 4 AM.

"I've never met Terrance!" says Penny.

"None of us have," says Bonny. "I thought he was from Bucharest."

"I surmised one of those -stan countries, Azerbaijan, Uzbekistan," says Mona.

"I bet it's not his house!" Penny says. "It's huge! He can't have that much money!"

"Information wants to be free," points out Mona. "And what is money but information?"

"But why live in a mansion?" Penny asks. "It's so crass!"

"He's got to live somewhere," Bonny says. She feels sick. She felt so privileged a few minutes ago, but Terrance has invited her friends the same way. The same clip, but Terrance dancing with them, not her. She tries to change the subject. "I have an assignment—"

"He doesn't necessarily have to live *anywhere*," Mona says. She starts lecturing them about some mathematician who had no home but went from college town to college town, staying with professor friends. Bonny tunes out. Mona is green lipstick, green eyes, green hair in glossy locks like surgical tubes. All this greenness in cappuccino-colored skin. It looks great. Image is everything, sure, but Bonny suddenly has the spiteful hope that Mona is bucktoothed and fish-eyed, eczemaed and jug-eared, when you peel back her digital veneer. "Where does it matter where you live, if you can have a virtual presence anywhere?"

"Virtual is real," Penny says. She's got a window in her front bicuspid, screening some black and white movie. "And real virtual."

The darkened tooth gives her the look of a dainty boxer, a pixie hockey player.

"A-men to that," Bonny says, then she clicks both women away with a fingertap.

What does Bonny Brood look like?

She's riding the Market Street Ferry toward the Steward Store. She's been fingering Katelyn Sayed's thumbnail shots, clicking up the woman's history, but the guy sitting next to her, a middle-aged goof with a baseball cap and a Tin Ear that thumps knock-Bach dance music, has been too interested in the show her arm has been putting on. So she's turned toward the window, shielding her arm from his view. She sees the partly-submerged buildings and the midday boat traffic. And closer by her own face reflected.

Big eyes, oval face, full lips, nose 5 percent larger than optimal. She's been told she's pretty but it's hard to believe today. With her blond hair swept back in a bun she looks like a schoolmarm or Stewardite. The window implanted beneath her right ear is skin-tone blank. The two lemon-wedge-shaped windows beneath her eyes have a skin tone animation, a progression of tiny wrinkles and pores designed to lead the viewer's eyes towards her mouth, on the theory that seeing her lips as she speaks reinforces her message. But who's going to watch her lips when her eyes are sad and her brow furrowed?

She wishes she hadn't hung up on her friends. She wishes she hadn't ballooned up egotistical about Terrance's invitation so they could puncture that balloon.

She wishes she had slept better. How's she going to change Katelyn's life while she's yawning?

She gets off at the Montgomery Street stop and walks two blocks on the pontoon sidewalk to the Steward Store.

Given that the Bay waters rose when the ice caps melted, given that *it's San Francisco*, you'd have thought Stewardship Incorporated would have put some thought into this store. But it's the same as their stores worldwide: a four story building in the Modernist style, square, concrete, with polished faux-marble pillars and a wide cement staircase. Stewardites in business attire are finishing their lunches. She doesn't look out of place as she sits, unrolls a black Business Brief, pretends to read *Accountant's World*.

At 12:53 a watertaxi drops Katelyn Sayed off.

Katelyn's large enough the pontoon sidewalk sags beneath her. She's got a disheveled corporate look. The gray micropore suit that she'd had tailored to fit her enlarging frame but which is already tight at the thighs, leaving the slitted skirt always open. The glitterhose, last year's hint of sexy danger beneath the corporate façade, rainbow iridescence veined blue where the hose is stretched too far. Black hair in a bun like Bonny's but there are loose hairs she's brushing out of her face even as she climbs the staircase.

"Katelyn Sayed?" Bonny says, rising. "I'm Bonny. I understand you're beginning your Stewardization—"

"How do you know my name?"

Not friendly, but at least she's stopped. "Stewardship doesn't worry much about client confidentiality. Anybody can get your data. Luckily, I work for an organization that cares—"

"Are you IRS? Some collection agency?"

Maybe it's good Bonny's tired so she doesn't meet Katelyn's hostility with hostility. "Nothing like that. I want to help you. I want to help you in a better way than Stewardship could."

"How can you help me? You don't even know me!"

"No, I don't. But if Stewardship doesn't work out, I wanted you to know there's a cheaper, kewler alternative." Bonny holds out a business card.

"*Kewler*?" Katelyn says contemptuously. But she takes the card and marches up the stairs.

Bonny grabs lunch at a sandwich shop across the street from the Steward Store. She's waiting for Katelyn to finish her Steward session. She watches the boat traffic, the sidewalk pedestrians, the occasional gilled swimmer, moving just below the surface. They're sleek and beautiful, these swimmers, bronzed skin covering powerful muscles. Some follow kewl, but most are corporate, financing their biogeneering through corporate sponsorship, their windowized backs streaming ads. One breast-stroking past her displays a spinning orange planet. Only as she sees it reflected off the glossy blue hull of a passing boat does she realize what it really is: the *S* of Stewardship International.

Seeing the great gray façade of the Store she feels a wave of self-pity. No way can she compete if the Bay's now thick with Steward swimmers. That Katelyn even accepted her card was just a fluke. No point in engaging the woman with some follow-through.

Life looks blech, like a grainy video viewed in a smoky room.

Bonny buys a coffee to combat her mood. It's half finished when she sees Katelyn exiting the Steward Store.

She sees Katelyn's changed. Hair combed, head up high, invigorated with the false confidence that an hour of scented pheromones and generic advice from a Stewarding Pro can give you. She's carrying the Steward goodie bag, animated logo on its side. No way she's going to taxi the two blocks to Montgomery Station. She'll have self-improvement on her mind.

Bonny slams down her coffee, hurries outside.

She has called it right. Katelyn's walking fast toward Market Street and Montgomery Station. Bonny, jittery from the coffee, bumps people, shakes footbridges, worries that she's flat-out going to have to run to catch the other woman.

But then Katelyn hesitates.

There's a corporate swimmer moving alongside her.

Skin the color and texture of naugahyde, back streaming the Steward logo as he sidestrokes beside Katelyn.

Katelyn, her fascination and distress obvious, almost walks into a woman coming the other way.

Bonny sees a chance.

"He just wants to show you how you'll be," Bonny says.

Katelyn studies the swimmer. His webbed fingers clutch the sidewalk, his back shows Katelyn, as though reflected by a perfect mirror, her ankles puffy, calves bulbous, slit in her skirt like a pointer to her bulky thighs.

"No lungs. Swimmers can't talk." Bonnie restrains herself from mentioning how out of water they will slowly suffocate. "But they can stream pixels fine. Ads. To encourage."

"Encourage! Encourage what?"

"Take a few steps and keep watching his back."

Katelyn flashes Bonny a look, but walks anyway.

As she moves, the swimmer paces her, the image on his back changing with each stroke. The streamed Katelyn drops poundage, reduces from obese to plump to thin, ankles sharpening, calves shaping, a figure with an hourglass figure emerging, though the hourglass is hard to see because she's wearing the same huge clothes. The sexy slit closes.

Katelyn stares trembling at what she could be.

"The Stewards make like it's about encouragement, but what it is about is *consumption*."

Katelyn looks at Bonny. "You think I need reminding I eat too much?"

Bonny steps back. "That's not what I mean. I mean—take that goody bag—it's got Gorge You Gorgeous freeze-dried steaks, right? And Min-Cal Masala, low-fat Indian foods, yeah?"

"Samples," Katelyn says. "So what?"

"Those are all Steward subsidiaries."

"So?"

"They want to give you a taste for Steward foods. But it's just not foods. See how the clothes are too big in the animation?"

"I know I'm fat."

"They want you to buy Steward clothes too when you slim down. Streamlined Sass and Look-Pricey Petites! They want to lock you into a lifetime of consumer dependency. Trapped like a wounded animal in the corporate machine!"

Though she's being too aggressive she's still surprised as Katelyn Sayed swings the goodie bag at her, striking her solid in the face.

Bonny Brood, at home in her tenement on San Bruno mountain, awkwardly holds an ice gel to her right cheek with her left hand as she talks to Terrance with her right. "I got ink all over my business suit. My cheek is swollen. And the ink's supposed to be hypoallergenic, but it makes my eye itch."

"Why didn't you run after her?"

"She knocked me down. She was gone when I got up. I thought the ink was *blood*."

The shadowy patterns playing beneath Terrance's lips make him look like he's moueing sympathetically. Maybe he is. Bonny says: "Can I get an advance for the window? To buy a replacement?"

"No, I will not pay for your mistakes! Your hard-sell!"

Not a moue.

"But I had a connection. I mean she wasn't running. She wasn't yelling at me."

"She's SoCal! Not City-hardened yet!"

"She took my card." Bonny's sounding whiny. She breathes in deep, says cool as she can, "What should I have said?"

"Sweetness, persuasion. I have seen you do that before."

"But *how*?"

"Words are not my talent. I do not feed you your lines. They must come from within." Terrance closes his eyes: his lids stream video faint as capillaries. "You have a unique Bonnyness about you which you can demonstrate to sweet and profound effect."

She's not sure what that means but it makes her feel a little better. "But my broken cheek—"

"I will pay to replace if you have success with Katelyn."

"Why are you being weird?" Penny asks. "Why are you only showing one side of your face?"

"I have a new download," Bonny says. "It's the kewl jewels. It's radastic."

"Why not show it to us?" Penny asks.

"You'll see it at the party," Bonny says.

"Are you okay?" asks Mona.

"I have to go now," Bonny says, clicking them away.

How is Bonny Brood? Disconsolate and miserable. In her dream, she's jogging along the moonlit beach, but there's a sense of imminent catastrophe: she'll sprain her ankle, she'll step on a nail. But then she remembers this beach should be underwater, ice-cap flooded, and a correction is made: a wall of water knocks her from her feet. As she fights to break the surface so she can breathe, something scratches at her side.

She wakes up fast. "What?" she says, even before she opens her right hand.

"Bonny Brood?"

"It's two in the morning," she says.

"Oh, I'm sorry," the woman says. "I'll call later."

"Wait!" It's Katelyn Sayed. Puffy-faced and wearing orange eyeliner. Bonny Brood says: "How can I help you?"

"I'm—" Katelyn says. "Oh, my god. Your face."

Bonny moves her hand so only her left profile is visible to her finger-cam.

"Did I do that?"

"No big deal," Bonny says.

"I *did* do that. I'm so sorry." The woman sniffs. An orange tear slides down her face: chromographic Steward makeup, reacting to the salt. "How can I make it up to you?"

Bonny moves her hand so Katelyn can see her full-on. "Meet me tomorrow and listen to what I have to say about Stewardship."

It's an aggressive move, no sweetness at all, but Katelyn wipes her cheek and says, "Where do we meet?"

They meet at ScopeEasy, a dryland café in North Beach where each

table has black velour curtains for privacy. Bonny Brood keeps the curtains open a foot so daylight shines upon her face. Her eye's not swollen anymore, but she's got a marble-sized lump on her cheek where the remaining window ink has collected.

It's colored red and green and cyan in horizontal levels like some layered cocktail.

It's the only color Bonny's showing today. Otherwise she's all in black. Black sweater, black beret hiding pinned-up blond hair. Even black gloves. "This is what I have for you," she says to Katelyn, showing the clear amber vial, with its five pills, resting in her black-suede-covered open hand.

Katelyn asks, "Diet drugs?"

"Not exactly," Bonny says. "Diet drugs are about consumption. They treat symptoms. They maintain dependence. That's Stewardship. That's not us. These—" she rolls the vial atop the table so the pills click inside—"these fix things."

Katelyn glances at Bonny's cheek. "What do they fix?"

"They branded you to Sovelte when you were a girl."

"My mom had it done. Pharmtasia paid my high school tuition in return."

"The pills fix it."

"Do they now? Do they fix families? Do they make daughters and mothers talk again?"

Katelyn's clenched her coffee mug so hard her knuckles have gone white.

"Will the Stewards do that for you?" Bonny asks, sweetly as she can.

"They say they will."

"Well, that's not something we claim we can do. All our pills do is fix the branding."

"How?"

"It turns the melanocortin-4 gene back on. The one that codes the receptor that tells you when you're full. The gene Pharmtasia inactivated in you for Sovelte to work."

"I know what they did to me," Katelyn says. She relaxes her grip. "A pill seems too easy. Why wouldn't I have heard about it?"

"There's no profit in producing it. Especially if you're Stewardship and you own the patent."

Katelyn sips at her coffee. "Do you make it in your kitchen?"

"I have a supplier. He's in Barstow. I can let you have one of the pills if you want some pharmchem to analyze it. The drug *was* tested on mice. Safe, effective, all that. I can link you to the studies if you want."

"I *do* want." Katelyn looks at Bonny's cheek. "But what do *you* want? What's your charge?"

"The pills are free."

"Then what? Your cheek? You want me to pay to fix it?"

"No. It's not about my cheek. Well, not directly." She pulls off her right glove. "We want you to consider a palmphone."

"My god," Katelyn says. Bonny's playing a blue sky in her hand, soft white clouds drifting away from her thumb. "You're selling *phones* to me?"

"No selling involved," Bonny says. "We're about aesthetics, not con-

sumerism. Kewlture. We'll get you a palmphone implanted *free*. Think of it as a symbol of the new Katelyn. A bow to kewl!"

"But a *palmphone*? Do you think I'm fourteen?"

"'Course not." Bonny closes her hand. "It's a suggestion. We'd like you to windowize at our expense. Anywhere on your body. Palm's nice 'cause it's useful. Everybody phones, right? And once you get the hang of it, it's easy to mode it back to skinshade." Bonny subvocalizes *skin*, and opens her hand. In their dim black-curtained space her palm's got the slightest glow. But the color's perfect.

"I don't understand," Katelyn says. "Is there a contract? Some subscription I sign up for?"

"It's all free for you."

"Then what's your motive? Where's your profit?"

"Katelyn," Bonny says. "Profit's the old paradigm. Profit's a Steward thing. Our motive is aesthetic improvement."

Katelyn pours an entire demiglass of sugar water into her coffee. "You can't live off aesthetic improvement."

Bonny shrugs. "I make enough to get by."

"You can't even fix your cheek."

"Let me put it this way. If you windowize your palm, Terrance will bank my cheek repair."

"My God," Katelyn says, then she puts her hand on Bonny's. Her hand is soft and heavy. "Send me some links on the palm procedure too."

Bonny resists the urge to yank her hand away. "Kewl."

In the tenement as Bonny's approaching her door, the door beyond opens and the cute guy neighboring her steps out into the corridor. "Hey," he says, and "Hey," she says, turning away from him so he can't see her right cheek. Then he walks her way, and to her horror, she keeps turning to her right, so that she's facing the wall as he passes her.

The ink in her cheek feels icy as her face heats up.

Ultrablank!

She hasn't felt so unkewl since high school. The time she'd worn horn-rims, brown knockoffs instead of black Jean Chauvins, and the girls had called her "cool" while winking at their friends.

She's hardly recovered from her current embarrassment before Terrance clicks her side. "You're not supposed to mention me," he says.

He's screening something in his scalp. She can't discern *what* but it gives his bristle-cut hair a white nimbus glow. "I'm working with what I got."

"Pity? She's the pathetic one, not you."

Bonny's shocked that Terrance would talk about a client that way. But she remembers almost pulling her hand away from Katelyn's. The revulsion at the woman's heavy touch. "We're improving her."

"Pity is not the route to improvement."

"It got her interested."

"For this one time, one palmphone—maybe! But pity does not bring repeat customers! Passion and self-confidence are what shift paradigms!"

"But—pity is cute."

"Wrong kind of cuteness! Puppies are cute, but they do not reconceptu-

alize worldviews! You must be the cute that moves men's hearts! You must be the cute that draws forth the latent Bonny that lies within Katelyn's ampleness!"

It is when she doesn't understand Terrance that she finds him kewlest. And it helps how his scalp's gone red so his hair looks fiery. "Maybe—sexy cute?"

"What do I know of sexy?" Terrance asks. "I know only paradigms."

She brings her fingercam close to her broken cheek. "This isn't sexy."

"I promise to fix that. When you bring her closer."

How did Bonny Brood come to fight for kewl?

It was long past high school. It was past her college days, when she'd changed her look monthly, now Urban Lounge, now Retro Oughts, now Rap-a-Billy. It was past even the year she spent in Houston, dressed in dingy lace and paste-white sunblock, living cheap in a mansion abandoned to the rising meltwater. It didn't happen until she'd come back to San Francisco, and was working at a thrift shop, and a coworker had linked her to this kewl website. Terrance's.

Terrance's site articulated everything about kewl that Bonny had ever formed half an opinion about. It took her tastes, and gave her a belief system that she could attach them to. Most of all it made her realize that kewl was about more than showing up high school classmates she would never even see again. Real kewl was not a selfish thing. Real kewl was generous and all-inclusive. It was about community. It was about taking kewlture from the corporations, and giving it back to the people.

Spreading kewl was what Terrance did.

Bonny wanted to be a part of that.

Bonny sends Katelyn some choice links. Studies, statistics, a motherlode of content on palmphones and chromosome 18, where the melanocortin-4 gene is located. She tops it off with a video showing her dialing her own palm. First, voice activated, then, with a rotary dial like a twentieth-century movie actress—retro can be sexy. She keeps moving after it's sent: sweeping the kitchen floor, hand-washing the dishes, replacing the burnt-out bulbs in the eye sockets of her Day-of-the-Dead skull clock. Maintaining frenetic activity because she's afraid if she pauses it will crash down on her: the realization that Katelyn could reject her just as easy as Bonny could have pulled her hand away from the other woman.

When she hears the cute guy next door running water in his sink, she gets a feeling like someone's sitting on her chest.

Then something tickles her right side.

It's Katelyn. Latticework of dried dish detergent gives a mosaic look to her face. "Hey," Bonny says with as much enthusiasm as she can muster.

"I want to do it," Katelyn says.

Bonny wipes her palm clean with the dishrag. "What?"

"I want to get the phone."

Katelyn looks composed, olive-toned skin untouched by makeup, self-confident enough that Bonny has to remind herself that *she*, not Katelyn, is the kewl one. "That's radastic."

"I feel bad about your cheek."

It starts beautifully. Bonny rents a watercar, a red-hulled ad-free Chinese three-seater, then spirits Katelyn from the East Bay Claremont dock to the downtown Oakland building where Spokeskin, the independent vendor that Terrance favors, occupies the lowest level. High tide's left the floor wet, but Katelyn seems amused; after they each pull on a pair of galoshes from the bin by the front door, she splashes laughing through the puddles beside the reception desk, she drags her feet through the soggy carpet by the display area, squeaking. It's maybe not kewl, but it's endearing, and Bonny says, "I'm glad to see you revved up."

"I've been so miserable," Katelyn says. "Shopping's a cure-all, right?"

"Well, we try to not get too consumeristic about it—but yeah, why not have fun?"

The displays are dermacell fabric cutouts, hand-shaped for the most part, phones planted into open palms, fingercams disguised as class rings or wedding bands. Katelyn experimentally punches in Bonny's number, giggles as Bonny answers, her face spotted green because electrostatic dye elements have burned out. "And what's this?" Katelyn asks, moving to another display.

Dermacell cutouts on this display represent arms, thighs, ankles. And there's something trapezoidal that Katelyn's obviously confused by. "The small of a back," Bonny explains. She runs her fingers along the keys, which follow the tops of the butt cheeks like the spread wings of a gull, and a window opens above them. A window screening their watching faces like a mirror. "A backphone."

"Why there? You can't use it."

"It's not *you* that uses it. It's something, you know, a *lover* uses. It's a *sexy* thing, yeah?"

Katelyn smiles and Bonny blushes, windows pale in red cheeks. Bonny punches a number in—the keys have a sandpaper feel to them so maybe you *could* use them yourself—and Penny appears in the window. "I'm having some dental work done, but leave me a *message*," Penny says with a wink and a smile. Five teeth screen videos. Bonny hangs up.

"Is there anything I can help with you with?"

A woman Bonny doesn't recognize: head shaved except for black bangs, skinny as a department store mannequin, maybe branded to some amphetamine. The candy-cane video spiraling up her jumpsuit makes her look even thinner.

Katelyn eyes her warily.

The woman looks at Bonny.

"We—she—had an appointment," Bonny says. "She's Katelyn Sayed."

"Oh, *you're* Katelyn Sayed." The Candy-Cane woman glances at Katelyn. Then she looks back at Bonny. "That's *so* kind of you to accompany Ms. Sayed on her *big* day. Does she know about our two-for-one sale on Epidrama products? *Twice* the square centimeter coverage for the same low price?"

Bonny tags the woman as a brand-name snob. She wonders why she's

working Oakland instead of some Union Square boutique. "She just wants a single palmphone."

"That's fine." The Candy-Cane looks at Bonny's cheek. "That looks like it *hurts*."

"Not now."

"I'm glad to hear that. I've seen that kind of injury before with generic dermals. You know, with an Epidrama or Jean Chauvin polyfiber window, you'd never have to worry about this sort of damage again."

Bonny stiffens at the mention of Jean Chauvin. "If I wanted a sale-spitch," she says, "I'd accept adstreams on my arms."

Candy-Cane doesn't even blink. "We wouldn't want *that*, would we?"

Bonny takes a breath. This isn't supposed to be about her. She says, "You're ready for the palmphone?"

Katelyn, still watching candy-cane, whispers, "I am."

"Dr. Norris is ready for you," Candy-Cane says. "This way, please."

Bonny Brood follows them through a doorway.

Candy-Cane says, "Isn't it *Ms. Sayed's* appointment?"

"It is," Bonny says. "And I'm Ms. Sayed's assistant."

"Of course you are," Candy-Cane says. "Here's the chart."

Smiling, she thrusts it so hard at Bonny that it clicks open a browser window in her left arm.

Bonny watches from a leather couch while Dr. Norris, compact, white-haired, interviews Katelyn. Katelyn is tense, Bonny can tell; her shoulders pulled close to her head, her arms crossed before her. She looks like she might bolt. Candy-Cane insulted her. Bonny is only now getting that. *Candy-Cane's snuffed it*, Bonny thinks. But Dr. Norris has a reassuring manner, as much Wise Grandmother as Physician, and as she takes Katelyn's health history, as she gives the options (dermal electrostatic ink vs. polyfiber epidermis replacement; simple phone vs. full browser capabilities; and so on) Katelyn relaxes. Shoulders loosening, arms uncrossing, body easing into her chair so that folds of her flesh press between the wooden columns in its back.

"What do you think I should do?" Katelyn asks Bonny.

Bonny's pleased. This might work out. "I'd go dermal simple phone. Won't last forever but you're keeping your own skin at least. Speech-enabling's standard but fingerdial's nice cuz once you know the system, you can punch commands faster than you can say them." Neither choice is the kewlest, and that might disappoint Terrance, but Bonny thinks incremental is the way to go. Radastic wasn't built in a day.

Dr. Norris gives a few caveats: chance of infection, chance (per Bonny's cheek) of leakage.

"I want what Bonny said," Katelyn says.

Dr. Norris sits Katelyn in the operating chair. It's like a dentist office chair, down to the video screen at its side. But where a dentist's examination screen shows the patient's teeth, this shows skin. Bonny watches Dr. Norris immobilize Katelyn's hand in sticky gel, then paint the shiny topical anaesthetic across the palm. She watches her zoom in on the palm: the palm print lines look like ridges separated by canyons.

"Close your eyes," Dr. Norris says. Katelyn's tranquilized but brow-furrowed and sweaty-faced anyway. She looks at Bonny.

"It's OK," Bonny whispers. She subvocalizes *bounce*, feels her good cheek itch as it starts to screen a bouncing smiley face.

Katelyn's puzzled for a moment then smiles, lets her eyes close.

Dr. Norris, hands in waldo gloves, gets to work. A pincer raises the skin, the inserter needle pierces it, then shoots a wiry ink element in. She moves along quickly, shooting elements. It's like embroidery with blood. She's careful not to block pores: you can overheat otherwise. As she works she talks about the vogue to screen pets and how she won't do anything more than an ID marker. Fur makes overheating a grave danger. "And unless they're short-furred you only get a glow anyway."

Midway through the surgery, Bonny Brood's forearm starts itching.

Where Candy-Cane hit it with the chart, it's browsing spontaneously, clicking through cams she's linked to (the 19th Avenue beach, the coral reefs of SoHo), Terrance's huge site with its analyses of kewl and capitalism, its shrines to Icons of Kewl like Brando, Marley, and Zoichoi; then clicking to Chinese and Arabic and Hindi sites of soap-opera stars and knock-Bach MCs: a fastcut picture salad that leaves Bonny dizzy and overwhelmed by the *kinds of kewl* until suddenly she's in a site called Diogene's Drapes, which sells curtains in seventeen colors, all pastels—and there's no escape. For as she's being clicked through fabric-choice and personal-testimonial windows she notices, at the bottom of the window on the inside of her arm, the orange spinning S of Stewardship Incorporated.

No links out from there!

Bonny subvocalizes *reset* but the orange S keeps spinning.

She pinches her arm hard and the window resets to skinshade.

"Are you all right?"

Dr. Norris stands by the couch with Katelyn. Katelyn's pale. She's got an aerated healing glove on the implanted hand.

"I'm good," Bonny says. "Done already?"

"We've been done for a few minutes," Dr. Norris said. "We were waiting—for you to finish."

"I was just *zoned*," Bonny says irritably. "It went OK?"

"She's fine," Dr. Norris said. "She's still a bit sedated. Can you get her home or should I call a cab?"

"I can do it!"

Bonny leads Katelyn by the arm out to the store area where she asks Candy-Cane to schedule a follow-up appointment. Candy-Cane gives her a date then says, "It's a good thing she chose ink."

Katelyn stiffens and Bonny says, "Why is that?"

"Because it will be easy to remove the slack ink elements when she loses that extra poundage."

Bonny points at Candy-Cane's red spiral jumpsuit. "Why don't you go lick yourself?"

Katelyn doesn't notice the corporate swimmer pacing their watercar in downtown Oakland. But she delights in the sailboats and seagulls, giggling and pointing at them like a little girl who's never seen water before.

It's the delight of a drug-dulled mind, and Bonny's hoping the tranquilizer will dull Katelyn's memories of Candy-Cane too.

Then on the bus ride from the Claremont Docks, climbing through the Berkeley Hills, Katelyn gets weepy. "You're so nice." She leans against Bonny. "You're so *not that woman*."

Bonny puts her arm around Katelyn. Her hand on the woman's shoulder can feel no bones, just fat, and she represses the instinct to withdraw. "We'll lodge a complaint."

"She was such a flashback to LA."

"They must dominate retail."

"Retail?" Katelyn looks at Bonny, tears making her mascaraed lashes glow rainbow colors. "I'm talking about my *friends*."

"They'd insult you to your face?"

"They were more catty. But they hinted. Coworkers too. Coupons for fitness centers on my desk, links for vomitoriums in my mail. Last Christmas my office Secret Santa gave me a bra with *expandable cups*."

"That's megamean," Bonny says. "No wonder you wanted to leave."

"It wasn't just *want*. It was *have to*. They were going to cut my salary by one third."

*They* being a Hollywood prop company where she was database engineer.

"Is that legal?"

"They said they had to apply the money to my health insurance premium."

Bonny knows Katelyn's got basic health with her job up here. She's with Climate Crisis Bureau, doing database work again. But even so, it's just living with her brother that's keeping her afloat. "At least you got family up here."

"Family. Huh!" Sits up, more angry than weepy now. Bonny, relieved, brings her arm away. "I have family down there too. And it was family that made me move more than anything else."

"You mean your mom."

"Of course I mean my mom. She said it was all my fault. She said I should have gotten a better job when I was skinny. She said if I'd made CTO, I could have gotten good enough health insurance to pay for a premium solution!"

"There's nothing like a mother's love," Bonny says.

"My brother only sees in color as long as he drinks Diet Squibb."

The brother's house is a cottage near downtown Orinda so covered with bougainvillea that Bonny feels claustrophobic just looking at it. Desert thump-thump music plays from inside, tinkling brass atop throbbing bass that resonates in Bonny's chest as she steps up on the front porch.

"Want to come in?" Katelyn shouts. "Robbie's home!"

"No thanks!" Bonny says. She pulls out the amber vial containing the remaining pills. "You know what to do with these?"

"One a day until they're gone!"

"Good!" Bonny notes that the papery crimson bracts of the bougainvillea tremble to the beat. "Your hand should be fine by the morning! I'll try calling you then!"

"Great!" Katelyn says, and then she gives Bonny a hug. Sweat-scented and smothered-in-flesh, but there's this kewl thing too: while they're touching Bonny can't feel the bass in her chest.

Terrance sits cross-legged on top of a gray stone column, flycam showing blue sky behind him but no other context. "I am all happiness for your progress regarding Katelyn!"

"It's kewl enough?"

"It is a beautiful start!"

Terrance is wearing a fringed buckskin vest without a shirt and Bonny wishes the cam would zoom in on his well-muscle shoulders, his sculpted chest. "Do you think there's a funky dynamic between us?"

"She is desperate. She is variable in her tempers and moods. She is a perfect candidate for further self-actualization and cosmetic transcendence!"

"But I think she's got a *crush* on me."

Terrance shrugs. Something moves on his chest. A beetle? "Crushes can be exploited for the greater good!"

"But I'm . . . I'm straight, yeah?"

"It is a fine balance between flirtation and fixation! It is one you've danced before, Bonny Brood! You should have confidence in your improvisational talents!"

She figures out the moving thing. It's a nipple. A gray the same color as the column, making lazy erratic circles across his screen-skinned chest. If it's textured, Bonny realizes, you could suck on it. But she asks: "How 'bout my cheek?"

"That will be fixed. When Katelyn is closer."

"Closer! But you promised!"

"Accoutrements and accessories: she has far to go."

"Okay," Bonny says, touching her ruptured cheek, thinking that maybe you could *bite* the nipple too.

"It's already working!" Katelyn says. "I'm hardly hungry at all!"

"Great," Bonny Brood says. Katelyn's image keeps blurring, quickpanning from one side of her face to the other. "Try to gesture with your other hand."

"Is this better?"

Katelyn's wearing no makeup, but her excitement makes her look younger.

"Much better. How's the implant feel?"

"It itches."

"You'll get so you itch only when you're streaming something new. When you get attuned, you might be able to recognize faces, just by how they feel."

"Really? That's cool." Spoken to rhyme with fool. "I'm so excited. To be changing my body. To be getting free from Sovelte."

"You wanna maybe do a little shopping this weekend?"

In Chinatown they buy surface-tension sandals, then splash unsinking

from store to store, looking at the wooden Buddhas and the caged dragons biogeneered from Gila monsters, their flightless purple wings transparent. They look at synthetic ivory bhongs, at chopsticks that sing like tuning forks, at counters stocked high with videoed sweatshirts showing San Francisco dry, then flooded with meltwater. And as they look, Bonny schools Katelyn on kewl: one's motives (pragmatic, status, Right Looking as part of Right Living, the impetus to beauty, a lure for sex), and the Routes To Kewl (Staying One Step Ahead of the Corporations, Subverting the Corporate Look, and Following Your Own Star).

And Katelyn, already a few pounds smaller, is enthusiastic, not just listening politely to Bonny but *acting* on her advice. On her own initiative buying two pairs of black pants then selecting red accessories: a T-shirt emblazoned SALMON NO RED DYE, a red blouse with sheer vertical stripes, a blood-red sari. And a pair of earrings with one a sickle-and-stars, the other a dollar sign. The pants and the sari are one-size fits all, but everything else is three or four sizes too small.

Katelyn wants to shrink to fit.

Bonny grooves to Katelyn's optimism, thinks she looks choice in the sari and pants as they're eating dim-sum and sauerkraut at a corner bistro. The red sari goes well with her smooth brown shoulder. "It's radastic what you've done," Bonny says. "I'd have thought you'd go corporate."

"I'm following my own star," Katelyn says. She squints like she's looking hard at something bright. Bonny's hoping for elaboration about what that star might be, but what Katelyn says next is, "I thought you were going to get your cheek fixed."

"Will happen soon," Bonny says. She tells a fib: "My appointment's in a few days."

When Katelyn calls next, she's dyed her hair blond. "People have started talking to me at work," she says.

"Kewl tools," Bonny says. The blond hair doesn't seem to go with Katelyn's olive-toned complexion, but Bonny's hand could be giving false colors. "And the red works?"

"It matches the logo of the Climate Crisis Bureau!" Katelyn stretches her arm to expand the camview. She's wearing a red T-shirt. Behind her, her computer monitor displays a red three-eyed fish about to chomp down on the blue Earth. "Think we can go shopping again?"

"Yeah." Bonny can't mask the glumness in her voice. "Why not."

"Where is your enthusiasm, Bonny Brood?"

"She's dyed her hair."

"You object to dye? It is carcinogenic."

"I'm blond. Now *she's* blond."

"Is mimicry not one route to kewl? Is imitation not the most earnest form of flattery?"

"It's the flattery I don't want! I don't want her to like me so much!"

Terrance's eyes go from dark brown to amber. The effect is disturbing. His eyes have always been the one constant in his ever-changing face. "Bonny Brood, you're disappointing me. So, she has a crush on you. She

is not the first to react in such a way. You should exploit the crush, not fear it."

"I'm not a whore."

Terrance's eyes go dark again. "I'm not suggesting that you are. There are no prostitutes in the post-capitalist paradigm. My meaning is that with Katelyn we have an opportunity to take her kewlness to the next level. She likes her palmphone?"

Bonny shrugs. "She calls me every day."

"Good. Then it is desired that you convince her to get another implant. A browser, or something decorative."

Bonny sags in her chair. "She's already debranded. Isn't that the important thing?"

"Bonny Brood, I've never seen you shrink from the service of kewl before."

She doesn't like this. He's calling her a coward. Can't he see she's down? "Maybe if my cheek was fixed."

"That would be putting the car before the horsepower! How about this, Bonny Brood? The day you convince her to windowize a second time, on that very day I'll schedule an appointment for you with Dr. Norris!"

"But you promised when Katelyn was closer—"

"And a second window is what I meant. Bonny Brood, why are you so afraid?"

"I'm not afraid. I'm just—"

She wants to say *sad* but Terrance's eyes have gone to gold and, disconcerted, she ends the call.

At midnight Bonny takes a bath with the lights off, Mona and Penny splitview in her palm, which she holds underwater.

"You're just a silhouette," says Mona, refraction of the water making her green tubes seem to writhe.

"I've turned off all my windows," Bonny says. "Guys, have you ever said no to Terrance?"

"Did he ask you out?" asks Penny breathlessly. Her teeth screen a single image: a multicolor TV test pattern.

"He's pushing me to get closer to this client than I'd like."

"We are only alive," Mona says, "to the extent that we challenge ourselves."

"I want to pick my own challenges."

"Oh Bonny," Penny says, "how could you risk your job with Terrance's party just next week?"

Sometimes you can trick yourself into happiness. Bonny drinks coffee, and dances to Gershwin in her living room, wearing VR spex so she can see her top-hatted tuxedoed partner who she's programmed to look like Terrance. She can't stay angry at a man who follows her lead. By the time she meets Katelyn in the Mission, she's beaming. "You look good," she tells Katelyn, as they climb onto one of the little MUNI boats that automatically track down Mission Street. "Have you lost that much weight, or do you just look rad in red?"

Katelyn grins. She's wearing a red top pleated with mirrors, and a black skirt, and red vinyl boots. "You're cute too. But that cheek!"

"I have a plan," Bonny says. She looks around dramatically. "I'll tell you about it when we're less public."

Katelyn accepts that. Bonny tells herself she's not being cowardly but prudent. If they can get the same shopping groove going they had before, Terrance's deal will go down smooth.

So they shop. Today they're doing historic kewlture. Thematic knick-knacks, soundtracks, wall-hangings. You can go thematic, random, obscure. Again Katelyn mimics Bonny. Pairs obscure and thematic, like Bonny, but morphing it. Bonny likes Day of the Dead stuff, pre-1960, handmade in Mexico instead of mass-produced in China, happy skeleton mariachi players, joyful dead at picnics. Katelyn goes for Greek funerary urns, stamped Made in Greece, knockoffs of classical antiques costing thousands, one showing Achilles and another a nymph dancing with a satyr and a third naked well-hung young men wrestling. At a poster shop she buys a melanin-infused tapestry, mock-medieval design activated by sunlight. Bonny, carrying the tapestry rolled-up on her shoulder, realizes it's mimicking the chlorophyll-based wall art she once mentioned collecting. And at a music store where Bonny downloads Gershwin remixes into her palmphone, Katelyn downloads ragtime standards, Scott Joplin, Irving Berlin.

Bonny wonders if the mimicry's a good sign. Worst case Katelyn's mocking her, but many have gotten to kewl through mockery. Best case, she's ingratiating herself with Bonny, with all *that* implies. It's unsettling either way. Or maybe it's the cheek thing still making her uncomfortable. Bonny's got to face it. "Let's get a drink," Bonny says. They watertaxi to a warehouse South of Market.

"We're going downstairs?" Katelyn asks.

"The walls are water-tight," Bonny says. "This is the kewlest club in SOMA."

The club's called Wet. One wall is clear, a huge picture window made of thick glass showing the submerged street, palette of blues aqua up high then darkening to navy at the base, seaweed clinging to a barnacled fire hydrant. An eel emerges from a sewer grate. "Asian swamp eel!" Katelyn says. "Invasive species!" but Bonny pulls her the other way. She gets panicky too close to the window now. Too mindful of the water and its crushing weight. She likes the other side of the club. There are nooks, caves, built into plaster rocks, carved from rubber reefs. Bonny chooses a grotto with a good view of the club's empty stage, a low table, and instead of chairs comfy pillows shaped like big clamshells and fat starfish. A waitress whose fingers each luminesce a different color takes their orders: Bonny a mojito, Katelyn white wine.

Katelyn's choice is a relief for Bonny, even if it smacks of Stewardization.

"Here's to kewl," Katelyn says when the drinks come. Clinking their glasses, their fingers brush, and Bonny has to look away.

A heavy guy comes on stage. Bald with a big drooping optic fiber mustache that lights up when he talks. "Hey, denizens of the deep," he says.

"We got a *grilly big* show for you today. We've got Vox Elder with his hyperreal take on water mains, and Typhoon Mary who's got the best pair of gills this side of the Pacific Ocean. But to start things off, let's give a wet welcome to the radastic, water-poppin' Man and Fish Unite!"

Bonny swallows half her drink as Man and Fish Unite takes the stage. There's a saxophonist, a bass guitar dude, and a tympani\high-hat player, all shirtless skinny guys in baggy shorts held up by suspenders. They've got the white sheeny skin and shallow gills of posers scared to go all the way and lose the lungs. They start playing, blurring saxophonist and fretless bass carrying the rhythm while the drummer makes a melody with his tympanis. It's the kind of weird crap that makes Bonny feel kewl in contrast. And she's feeling the rum from the mojito. "Let's talk," she tells Katelyn.

"Can't hear you!" Katelyn shouts. A fourth Man and Fish Uniter has climbed onstage. This one's so fishlike Bonny gawks. Mottled brown scales and fins instead of arms and though he walks like a man, his snouty face points skyward, sweeping from his shoulderless torso, with bulging gray eyes at the side of his head.

"*Salvelinus fontinalis*," Katelyn says, speaking into Bonny's ear. "Brook trout."

Katelyn's leaning against her. Soft and warm where the trout looks sleek and cold. Bonny doesn't move. "You're looking rad cute," she tells Katelyn.

"Yeah?"

The trout is dancing, gills fluttering. Bonnie wonders if it still has its lungs: how else could it dance? Still looking at the trout she says, "You've got a shine to your eyes, and a glow to your cheek. Happy colors."

Katelyn's breast is so heavy on Bonny's arm that she switches her drink to her left hand. But the glass is empty. "Brook trout—another invasive species."

"You're like a new person."

Katelyn touches Bonny's cheek. "Why do I get to be new?" she asks. Her fingers gently tug the ink-swollen lump. "How come I get your treatment when you don't even get your cheek fixed?"

The rum makes Bonny feel like she's watching herself, a performer like the dancing trout. "Terrance is being a hard-ass about it."

"You said he was going to fix it."

"He is. He wants me to do more for you."

"What do you mean?"

Bonny looks at Katelyn. "He wants you to try another window."

"What?" Katelyn pulls her hand away. "More surgery?"

"It could be sexy. Something to accentuate your thighs. Or something radastic. Like my earring-window. Or something useful. I got browsers windowed into my arms."

"I thought we had a *deal*," Katelyn says.

"We did." Bonny glances back at the fish. It has feet, black pointed boots. "It's just Terrance is being an asshole about it."

"I thought getting the palmphone was my end of the deal."

"Totally. You've been four-square and all."

"Then why can't Terrance be four-square too?"

"He's a guy, you know?"

"That doesn't excuse *anything*," Katelyn says.

Spoken so emphatically Bonny has to look at the dancing fish. She wonders: is it biogeneered? Then how could it dance so long? How could it breathe? Maybe it's just a man in a costume. "You don't have to do anything. Just a thought." The fish leans forward, pivoting at its center like it has a waist. "But if you *wanted* to, you could get browser capabilities on your calf. Stream a rose or a Buddhist temple then secretly browse at business meetings. It'd be sexy and utliful and radastic all at the same time!"

"Can't you at least look at me when you make your pitch?" Katelyn shouts.

Bonny pulls her eyes away from the dancing fish. Katelyn has slid away from her. Glaring, lips trembling, big starfish pillow levered upward by her weight so one arm thrusts out pugilistically.

Bonny takes a breath then reaches out, pushes down the starfish arm, places her hand on Katelyn's thigh. She squeezes. Katelyn is as soft as the pillows. "Please, think about it. Anything's reversible."

Katelyn frowns.

"Please?"

"Maybe I'll do it. But it would be just for you."

"Radastic," Bonny says, smiling. She hears the tympani melody building and imagines the question of the dancing fish could be solved if she just looked now. But she keeps smiling like a Steward at Katelyn, even as she notices there's a water stain in the fake cave wall.

Terrance has come through. Katelyn's and Bonny's appointments are the same day, scheduled back to back. Bonny's relieved but still feels hints of doom. So in her left arm she screens a video of a big wave. On its green rolling slope a wetsuited figure rides a surfboard. It's her, of course. Coming straight down, sluicing across the face, riding the top again: you can change the position by clicking the figure in different places. Katelyn thinks it's a game. On the boat to Spokeskin, Bonny lets her touch her arm, toggle the surfer, the green wave a contrast to Katelyn's red SALMON NO RED DYE t-shirt.

The kawl comforting thing is no matter the surfer's position she never falls.

Bonny needs that comfort. Candy-Cane's behind the reception desk. Spirals in her jumpsuit black today like licorice. As Bonny takes a deep breath, it's Katelyn who steps up to the desk. "I have a one o'clock appointment," she says. "I'm Katelyn Sayed."

"Hi, Ms. Sayed," Candy-Cane says. "You have a few minutes. Did you want to examine our selection of windows?"

"No, thanks," Katelyn says. "I know what I want."

This is news to Bonny. Katelyn has been considering a forearm implant like Bonny's, or something discreet like an ankle implant. But nothing definitive. Candy-Cane smiles. "Very good. Would you like Ms. Brood to accompany you to Dr. Norris's office?"

"No, I'll be okay on my own." She turns towards Bonny. "I'll be fine."

"What are you getting?" Bonny asks her.

"I want to surprise you," Katelyn says. Then she kisses Bonny on the cheek.

It's an hour wait until Bonny's turn. She considers getting a coffee but decides leaving might make her look unkewl. If Candy-Cane is going to act friendly, Bonny's going to act nonchalant. So she inspects the dermacell displays. They've got a new series of screens for mouth parts, screened dermacell encasing mechanical moving lips and tongues. So one set of lips goes from a pout to a smile as it screens a natureshow on humpbacked whales, another set makes a kissing motion as it displays obnoxious dancing hearts; and the tongues curl and tap absent palates as they screen clips from ancient black and white movies, close-ups of handsome men with glossy hair talking to pretty women wearing veiled hats. It's kewl, but the longer she watches, the more disturbing it seems. All these parts moving without the context of a mouth: it's creepy. And she can feel Candy-Cane watching her, gauging her reaction. Bonny wants to run, but what she does is look at her forearm. She takes deep breaths and watches the little surfer keep her balance on the tsunami. Never falling no matter how the wave or her position changes. Bonny finds a centered calming force to balance the lip-tongue creepout randomness.

There's a doorcreak behind her as someone comes into the shop.

"Hello, Ms. Smaltz," Candy-Cane says. "Dr. N.'s with another patient, if you want to wait a few minutes."

"Tha's kewl."

Bonny turns. She sees a pink-haired Asian woman with a badly bleeding arm. Only it's not bleeding. It's *screening* blood, a network of rivulets that looks like it should drip to the floor but instead ends abruptly at the wrist as if reabsorbed. It's a clichéd effect that Bonny wouldn't have been fooled by if she wasn't already on edge.

"Getting my other arm done today," the woman says, coming over to Bonny. "Not red but *blue*, like veins."

"Radastic," Bonny says. She touches her cheek. "*I'm* getting my cheek fixed. In fact—" she clicks the back of her right wrist and a gold-armed analog clock appears reading 1:45. "I'm getting it done in fifteen minutes."

"Hecka kewl," the arm-bleed woman says. "Two PM's my time too!"

Bonny Brood stomps over to Candy-Cane. "Have you double-booked two PM?"

"I don't know what you mean." Candy-Cane scrutinizes her deskpad. "The two PM appointment is for Ms. Smaltz."

"That's *my* time," Bonny says. "Terrance confirmed it yesterday!"

"How unfortunate," Candy-Cane says. "Maybe there was a confusion about the day." She clicks a query into the deskpad. "I see. You're scheduled for three weeks from now."

"Unacceptable. Get me in today."

"I'm afraid I can't do that. Dr. N.'s slate is full already."

Bonny Brood wants to slap the Candy-Cane's bony cheek. But that would be the ultimate unkewl.

"Tell Katelyn I'll be waiting outside."

"Heyth Bonny, youth ok?"

"I'm fine," Bonny says. It's Katelyn she's concerned about. Slurred speech and heavily lidded eyes. Katelyn stumbles as she climbs into the water taxi, and Bonny, already in, grabbing her arm to steady her, is almost pulled over. She regains her balance and sits Katelyn down. "Dr. Norris dosed you good."

Katelyn looks at Bonny. "Youth look sad."

Bonny shrugs. She tells the taxi driver to take them to the Claremont Docks. Then she looks Katelyn over. She sees nothing on her arms. "Where's your new window?"

Katelyn smiles. Drugged, she's like a child. "A surprise."

"Yes, Katelyn. You can show me the surprise now."

Suddenly Katelyn lays face-down across Bonny's lap. She smells of antiseptic, of skin ink. She's quiet long enough that Bonny wonders if she's passed out. "Katelyn?"

"My shirt. Pull it shup."

"OK." Bonny pulls up the shirt. Translucent aerated swabbing's wrapped around her. From six inches above her waist to the top of her butt. Through the swabbing you can see colliding geometries, rectangles and cones, drifting across a trapezoidal window scattered with dried flecks of blood like beauty marks. "Backplant," Bonny says.

"Kewlth." Katelyn pushes herself up. Grinning so wide Bonny wants to cringe. Then her mouth drops open. "Yourth cheek!"

Bonny feels her eyes water. "Candy-Cane got back at me."

"I will destroy her," Terrance says. "It is all obviousness that she is a Steward agent."

"I think she's just a bitch," Bonny says.

"Her bitchiness is inarguable," Terrance says. "But such bitchiness is symptomatic of capitalism's excesses. I shall see that she works for Dr. Norris no longer."

What is that screened in his forehead: horns?

And can horns be sexy?

It's the Fourth of July, the day before the party, and Bonny Brood's in her bathroom, staring at her reflection, holding black and red leads from a 12-volt boat battery near the lump in her cheek. The layers in the lump are shades of gray now. A Virgin de Guadeloupe candle burns in the sink; an X-acto knife waits on the counter. Her left arm plays a clip from a site called Tattoo Undo. It shows a man shocking an ink lump in his wrist then lancing it with a darning needle, releasing a stream of bright electrified ink. The clip loops endlessly. Though the procedure's supposed to be "practically painless" she notices he winces at the shock.

Bonny's never thought pain was kewl.

But at last she touches the leads to the lump. She feels a tickle, then a tingle, then with a *hiss* something sharp as a slap. She cries out and drops the leads and knocks the knife clattering to the linoleum floor.

When she looks again her cheek is throbbing but the lump looks the same. No, *mostly* the same; there's brightness where the leads touched. A dot of red, a dot of cyan.

She needs to shock the lump some more.

The thought of doing that makes her want to cry.

She's staring uncertainly at the leads when somebody knocks at her front door.

She picks up the X-acto knife, then opens the door.

Katelyn's there. "You're not going to stab me, are you?"

She's wearing a red shirt and a glossy black skirt. And a black beret that complements cheekbones that Bonny does not remember having seen before. Bonny remembers the knife and sets it down carefully. "What a surprise," she says dully.

"I tried calling you." Katelyn raises her palm. Bonny's face a gray icon indicating she's not taking calls. Katelyn raises her other hand. She's holding something bright: two embossed tickets screening fireworks. "The San Francisco symphony's playing at the Wharf. Wanna come?"

The tickets read: *Stewardship, Inc. Presents the Symphonic Fourth*. Bonny wants to hide in her bathroom but as duplicate red rockets explode on each ticket like fashion accessories for Katelyn, she says, "Let's go."

Post-melt Fisherman's Wharf is all about floating docks and pontoon bridges. Tonight it is crowded with Fourth-of-July people. Waving light-sticks and smiling with teeth that iridesce red, white, and blue. Kids break vials of Stewardship pheromones designed to inspire patriotism and good will.

Usually crowd scenes comfort Bonny but she can't forget how beautiful most San Franciscans look and how though they smile at her they must notice her cheek, and, seeing Katelyn ahead of her, must think Katelyn is leading her not just to their seats but to a future where she too is forty pounds heavier.

They cross pontoon bridges from floating barge to floating barge, little firecrackers startling her and the smell of brine and sulfur tripping childhood memories of pre-melt Fourth's on the Berkeley pier.

Their barge is crowded on the side facing the symphony's bandshell platform but less so on the west side, where there's a long bench running alongside the water. Poorly lit, it's in the shadows of the barge's boat house. Katelyn stumbles over a couple making out, rights herself by clasping onto Bonny's arm. When they sit on an empty space, Bonny notes that her arm is flashing through sites the way it did before at Dr. Norris's office. "Kewl," Katelyn says.

"Yeah," says Bonny.

"Want a drink?" Katelyn asks.

"If you're having one," Bonny says. A drink tray's making its way down the water alongside the barge, as if following a mechanical track. But, as Katelyn reaches over the edge to grab two drinks, Bonny sees the tray's being held by a hand. A swimming person, presumably gilled, screening something diffuse that makes the water green where it had been dark

and that gives enough light that Bonny can see the drinks are in high-boys and each colored red or blue. Katelyn grabs blue drinks for them both.

"Thanks," Bonny says. Then she drinks. It's Blue Banana Liqueur. A Stewardship cordial; but what the hell. It's free. It works. Her misery lightens, and tension she hadn't noticed having eased, and she feels the warm breeze pushing through the Golden Gate, and Katelyn, warm too beside her. On the next barge over, colored lights flash: skinscreens and animated tickets and laser crayons, intriguing in their diversity, their whole a text she can almost read.

The Golden Gate Bridge seems like an orange-stringed harp ready to be plucked by the hand of God.

She finishes her drink and the music starts. A John Phillip Sousa march. Turning to her left she can see the bandshell, its nacreous mother-of-pearl biogeneered to huge proportions, only the rightmost part of the orchestra visible, violinists and cellists in gray and white outfits so dignified and sensible they must be Stewardship-supplied.

The music loudens, quiets, depending on the wind. Then it plays tinny and continuous beside her. "Look," Katelyn whispers. She's screening the performance in her hand. Bonny laughs. "I can do that too." Her left arm's still cycling through sites, medical and self-help and the homepages of famous paramedics and faith healers, a browsing sequence probably originating from a link in Tattoo Undo. Bonny flexes her arm hard to reset the screen, then clicks to the bandshell. "Watch this," she says. With her finger she clicks a tuba player. He's displayed enlarged in one window, a bald-headed man who seems weighed down by his shiny instrument.

"What about her?" Katelyn asks. She touches Katelyn's arm. A trumpet-player with hair like tinsel takes the place of the tuba player. Bonny doesn't care about the trumpeter, but Katelyn's touch makes her shiver. A shivering she doesn't know the meaning of, because the distress, the discomfort she'd felt before when they were close seems gone now. She masks her uncertainty by smiling at Katelyn. Katelyn smiles and kisses Bonny's bad cheek. "It's all . . . it's all pretty. And warm."

"Oh!" Bonny stands up and leans over the low railing. The wind-roughed water distorts her reflection, but she makes out the lump, its colors bright and swirling like the bands of cloud in a big planet. Kewl but prime for lancing; she wishes she'd brought the knife with her. To her right the drink-tray approaches. Balanced on one upraised hand, shifting to rebalance it exactly when two drinks are taken. As the swimmer passes her she sees he's naked and hairless and muscled like an athlete, swimming face down so she can see his bare buttocks and the dorsal edges of his fluttering gills, crimson with arterial blood. She doesn't think he's a corporate crawler; he has no ads on his backside. But there's something luminous white below him, maybe a window on his midriff, bright enough to illuminate a subsurface ladder on the side of the barge.

Bonny grabs two drinks almost as an afterthought.

"Thanks!" Katelyn says. "But could you hold mine for a second?"

"Sure."

Katelyn takes off her beret and pulls off her shirt.

She's still heavy, but Rubenesque, not obese: attractive enough if women are your thing.

"I, uh," Bonny says.

"It's not like *that*," Katelyn says. "I just wanted you to check out my backplant."

"Kewl," Bonny says. She hands Katelyn the drink then drinks her own down. Blood Orange Schnapps, she judges. It's sweet and strong and makes her feel ready for whatever the night might bring.

Katelyn waves her hand in front of Bonny's face. Then turns. "Look!"

On Katelyn's back a still-frame blur. Bonny's face, appearing to peek out from Katelyn's glossy skirt, the blur suggesting drunkenness, the streak of the lump a burning thing being waved. With a forefinger Bonny taps the streak.

The skin too soft: the firmness of the screen barely noticeable. Bonny Brood gaps.

She sees herself, a schematic cartoon view, sitting on the bench, her skin zones each a bright primary color. A tingle in her palm. Katelyn's face. "I got your private zone permissions from Dr. Norris. I hope you don't mind."

Bonny's cartoon right side is green. She touches it. She feels her side activating. Not a tickle, though. Something harder, smoother, like warm polished glass being drawn across her ribs. Katelyn's face replaces the green. Then Katelyn's turning, sitting beside her, both of them straddling the bench, kissing. There is a moreness about Katelyn. The taste of schnapps is stronger on Katelyn's breath. Her breasts seem more substantial. Her lips fuller, her tongue stronger and more flexible. It is more Katelyn's kiss than Bonny's. More Katelyn's doing. Bonny doesn't want the kiss as much as she wants Katelyn's back. She reaches around Katelyn, slides her fingers beneath Katelyn's bra strap, then follows with both hands the shallow groove of her spine. She reaches the backplant. She touches it, finds her zones, her *own* zones. Her side, her arms, her legs, her palms. Each touch is warm and smooth and makes her shiver. Bonny breathes harder. Katelyn's trying to stick her hand up Bonny's shirt, but Bonny doesn't want that. She wants to knead the backplant, squeeze it, and then—

She pulls her hands away.

"What's the matter?"

"Your backplant. It's so—"

"What?"

"It's so . . ."

Bonny is nauseated.

"It's so what?" Katelyn asks.

"It's loose," Bonny says. She gets up and steps over to the railing. She sees the drink swimmer coming their way again.

"What do you mean, loose?" Katelyn says.

She sees the hard-muscled swimmer. So different from Katelyn. The implant beneath him would be solid with the muscle, not floating in layers of fatty connective tissue.

She wonders where exactly his implant is.

"Bonny, tell me!" Katelyn grabs her arm.

"Maybe if you exercise," Bonny says, shrugging Katelyn off.

Then Bonny jumps into the water.

Even post-melt water's chilly. The saltwater burns her cheek where the electrical elements are exposed. As she sinks she figures out the guy swimming above her. One intense bit of brightness between his legs. An implant so luminous you can't tell if it enhances or replaces what he had before. But then the sky lights up multicolored with fireworks and the only thing she knows for sure is that he's pushing her back up onto the barge.

And that, as she coughs out salt water and looks at the firecracker-lit barge, Katelyn is no longer there.

"That was astounding in its unprofessionalism! To insult a client! To abandon her and put yourself in danger!"

"I was drunk," Bonny offers lamely. It's dawn and her kitchen window shows the lights of early risers or 24-7 party people shining in her teneament airshaft. "I kept calling her but she wouldn't answer."

"You must repair things this afternoon," Terrance says. He's sitting behind an office desk. He's apparently nude, but screening a gray suit complete with high collar and Ascot tie. "You must visit her at 3 PM."

"But your party—"

"Is tonight. I have purchased you a ticket so you might fly to Barstow."

"Thanks." Bonny touches her lump. "You want me to go to her office."

"No." Terrance taps his temple and abruptly sports a monocle. "At 3 PM she has an appointment at Stewardship."

"What?"

"Show her that sweet Bonny persuasion."

Bonny Brood, caffeine-jagged, business-suited though the inkstains didn't completely scrub out, sore-cheeked because she's lanced the lump just two hours ago, waits by the escalators to the Montgomery Street BART station.

Waiting for Katelyn who Terrance says is BARTing to SF today.

Bonny is pretending to read *Analyst Viva!* in her Business Brief but must be fooling nobody because Stewardites keep staring at her as they pass.

Finally Katelyn rides up the escalator. Frowning, face made-up heavily, wearing the same gray suit that she'd worn the day of her first trip to Stewardship though it looks as big as a circus tent on her now.

"I don't want to talk to you," Katelyn says, stepping off the station's concrete platform onto the pontoon sidewalk.

Bonny follows her, from behind says: "I'm sorry about last night."

"I'm sure you are."

Bonny catches up. Katelyn's got a sheen to her face, like she's installed a full-face screen at lowest luminosity. What it is is Glow, a Steward base that luminesces when your body temperature reaches a certain point. Katelyn's walking fast.

"What's at Steward?"

"They've got a great gym."

"I liked touching you."

"No, you didn't," Katelyn says.

"But I did."

"What you liked," Katelyn says, "was touching yourself."

"I—" Bonny says.

A woman coming the other way ignores Katelyn but glances at Bonny.

Bonny, flustered, stops, sees her reflection and understands what people have been looking at: still-charged leakage below the lump, glow-white at the top then fanning out into component pigments as it wraps around her jawline and makes a river delta on her throat.

Bonny wipes most of it off with a Kleenex. Then she runs after Katelyn, reaching her at the Stewardship building.

"You're right! I liked touching myself! But I was touching myself through you!"

Katelyn starts up the staircase.

"I have some implants you could touch! It could be fun for us both! We could touch each other!"

Katelyn doesn't even slow down. "Don't you think I should get some exercise first?"

Even in the evening Barstow's sweltering. Bonny Brood, as she walks the quartz path toward Terrance's mansion, feels like she's pushing her way through a giant lung. The bushes in the yard seem like alveolar sacs, the mat of kudzu vines beneath them a circulatory system gone wild. The mansion itself, a hundred feet tall and diamond-shaped, is sheathed with a crystal laminate whose roughness reflects the sunset a different shade of red with each step she takes, so that she's reminded of a beating heart.

She tries not to think about Katelyn. Tries to remind herself she'll get to meet Terrance soon.

She steps up on the porch. It's wooden, whitewashed, and double-columned, like a piece of a Drowned South mansion installed here as the one nod to the subtropical climate. The door, though, is the same crystal. She can see herself but not inside. A silver tank-top, midriff cut, shorts, all her screens skin-colored because she doesn't know how the others in the Clique will be dressed.

The lump is gray and shriveled and the skin around it red.

It looks like a bullseye.

She wants to run away.

"Bonny Brood, will you come in?"

Terrance's voice.

The door slides open. Bonny goes into a huge austere space with black leather sofas. On one sofa a woman with coffee-colored skin lies naked, curled on her side. Desert thump-thump music plays faintly from elsewhere in the house. The woman eyes Bonny drowsily, points at a staircase. "Thanks," Bonny says.

The woman says nothing but a bright blue shimmering line appears at her throat like a necklace, then travels the length of her body to her feet.

Bonny thinks the effect is kewl.

She's inspired. Climbing the staircase, she decides to screen a clip of a rainstorm in a desert: a time-lapse loop showing baked ground then pounding rain of gullywash proportions then flowers, gold poppy and evening primrose, blooming in the aftermath. The kewlest thing is that she starts the clip first in the right side of her body—forearm, ear and shin—then starts it in her shoulder blades, then starts it in the left side. So it progresses around her body like daytime around Earth.

She reaches the second level.

And sees three women talking together. One screening the gray and ruddy stripes of a tabby cat, another magma seeping from apparent cracks in her dark skin. The third wears an elegant black pantsuit that has a strange *softness* to its edges. Though Bonny can discern the trumpets in the music it's not too loud to talk over. "Hey, do you know where Terrance is?"

The three look at her and laugh. Bonny's face goes warm and it's work to keep her hand away from her cheek. But then the one in the pantsuit, which Bonny sees now is screened, the pants shortening to show skinny white knees, says, "If you want to *see* him, go upstairs."

Up another level and here's the crowd. The music loud so she feels the beat like a second heart. Someone screening a montage of blueprints gives her a whiskey sour which she can barely taste as she drinks it down. But it dizzies her a bit, unbalances her so that she bumps first into a nude woman screening multiple breasts then into a teenage girl scrolling cobalt-blue stock quotes across multiple screens. The women's bodies are warm and sweaty and (if you can forget the visual part) human. The humanness she needs. There's too much brightness, too many things to see. She keeps touching people: a Day of the Dead skeleton, a jokey URL NOT FOUND, a tall woman screen-free save for moth-wings on her back. As long as she touches them she feels okay. She moves forward, notices people are dancing, that there is a brightness at the center of the room, a cluster of people, thirty, forty, watching something. Too bright to tell what. She goes toward the brightness.

Someone claps her shoulder. "Bonny Brood!"

It's Mona. Shorter than Bonny had imagined. The delicacy of her fine-boned features balanced by the snake heads projecting from each fat lock of hair. And grasping her elbow, Penny.

Penny seems to be nude but is screening so many windows that Bonny can't be sure. She has Bogart on her forehead, Buster Keaton on her cheeks. Her eyes are wide with fear as she stares at Bonny. "Your cheek!"

Bonny blushes. "Where's—"

"It's kewl!" Mona touches Bonny's bad cheek. "It's like a desert rose!"

"Thanks," Bonny says. "Where's Terrance?"

Penny whimpers something. She clings to Mona like a child.

"Forget Terrance!" Mona says. "Dance with us!"

"I want to see him!"

"OK," Mona says. She takes Bonny's hand and leads her toward the bright center. "Are you sure you want to see him?"

"Of course!" Bonny says.

And there at the center, at the center of eight or ten dancing women,

March 2006

she sees Terrance. Wearing a silver wig but topless and muscular and sporting a Vandyke beard so bright Bonny sees purple-afterimage trails when he shakes his head.

Though the women are dancing too they seem more observers than participants.

"Hey, everybody, it's Bonny Brood's turn!"

Then Mona pushes Bonny into the circle.

Bonny bumps into a woman with white hair. "Sorry."

The woman shakes her head then steps away.

Bonny's good cheek itches. Like her cheek's losing its image *now*.

But where's Terrance?

She turns around, and turns around again. "Where is he?"

"Dance!" someone shouts.

"Yeah, dance!" someone else cries.

Bonny's itchy. She's itchy all over. Like her screens are changing. Like she's streaming new clips in every screen she has.

"Go on, dance!"

And then she sees. Her muscled forearms with curly ginger-colored hair. Her six-pack abs. Her calves knotted with muscle like a cyclist's.

*Reset*, she subvocalizes. "Reset!"

Someone's streaming to her and she can't get control back.

Her palmphone rings and she looks at her hand.

She sees Terrance looking up at her.

"Terrance, where are you?"

No answer because she's talking to herself: her palm screens a mirror, an imaginary mirror, motion of Terrance's lips perfectly matching hers, the one flaw in Terrance's beautiful face the red splotchy cheek.

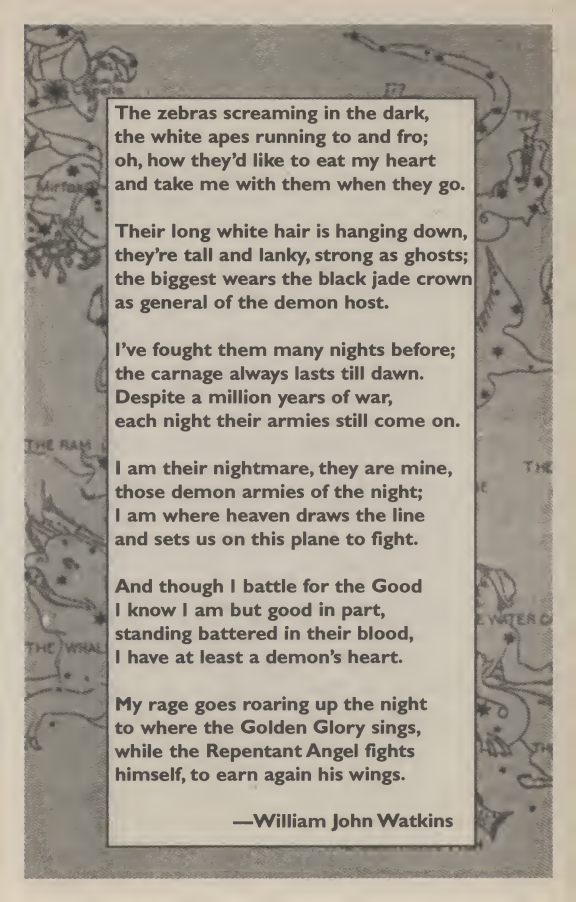
She realizes this is as close to Terrance as she'll ever get.

As close as anyone could possibly get.

With everyone watching, circled around her too far away to touch, Bonny fights back her tears, and begins to dance. ○



# DEMON ARMIES OF THE NIGHT



The zebras screaming in the dark,  
the white apes running to and fro;  
oh, how they'd like to eat my heart  
and take me with them when they go.

Their long white hair is hanging down,  
they're tall and lanky, strong as ghosts;  
the biggest wears the black jade crown  
as general of the demon host.

I've fought them many nights before;  
the carnage always lasts till dawn.  
Despite a million years of war,  
each night their armies still come on.

I am their nightmare, they are mine,  
those demon armies of the night;  
I am where heaven draws the line  
and sets us on this plane to fight.

And though I battle for the Good  
I know I am but good in part,  
standing battered in their blood,  
I have at least a demon's heart.

My rage goes roaring up the night  
to where the Golden Glory sings,  
while the Repentant Angel fights  
himself, to earn again his wings.

—William John Watkins

## Colorful Chills

Original anthologies of horror fiction don't come any more attractively packaged and well-stuffed with quality work than *The Dark Horse Book of the Dead* (hardcover, \$14.95, 103 pages, ISBN 1-59307-281-3), edited by Scott Allie. This array of creepy comics—plus one illustrated prose piece—is guaranteed to send shivers up your backbone in a classy manner.

"The Hungry Ghosts" features story and art by Kelley Jones. Jebediah Kyle is a mountain man fighting a forest full of ghouls. Help seems to be on the way from a couple of passing hunters. But then the bottom drops out from under our expectations. Jones's art is in high-EC-comics, Jack Davis style, reveling in comedic grossness.

Mike Mignola, of *Hellboy* fame, contributes one of his typically atmospheric tales with "The Ghoul," in which Mignola's famous big-fisted, brick-red hero must battle a poetry-spouting corpse-eater. As usual, Mignola's uncluttered linework and perfect pacing make for a taut, melancholy tale.

Robert E. Howard shows up with a seldom-reprinted tale, "Old Garfield's Heart," about an immortal cowpoke with a secret buried literally in his chest. Elegant B&W art from Gary Gianni—who has illustrated entire books of Howard's stories—perfectly mimics classic pulp illos with an even higher degree of artistry.

David Crouse scripts "The Ditch," and Todd Herman brings it to full-color life. A meditation on death through the ghost of a dead dog, this moody parable reminds me of Phil Dick's famous line, that the secret of life is contained in a dead dog by the side of the road.

The notion of a mortal taking over for the Grim Reaper is a common one, but it's seldom gotten as funny a workout as in "Death Boy," which Bob Fingerma wrote and Roger Langridge drew in antic style. Is there any upside to being able to cause death with a touch? Our hero is eventually inclined to answer yes, but only after many awkward trials of his new power.

Eric Powell, whose ongoing comic *The Goon* is Big Dumb Fun, surprises his audience with "The Wallace Expedition," which is more in a Lovecraftian vein, detailing the horrible experiences of some Arctic explorers in the year 1892. His conceit of a lone carnivorous tree amidst ice and snow is a particularly vivid and spooky notion.

"Queen of Darkness," by Pat McEown is a kind of Tim-Burtonish excursion into the lives of a boy and a girl who play an intimate part in the apocalyptic destruction of our world. McEown's delicate linework is perfect for conveying both vast architectural vistas and close-up character expressions. The surreal nature of this tale is well maintained throughout.

"Kago No Tori"—scripted by Jamie S. Rich and drawn by Guy Davis—creates a feudal Japanese myth of

potent resonance, about being careful what you wish for. One scene, where a drowned princess returns, will stick with you for a long time.

In "The Magicians," with story by Scott Allie and art by Paul Lee and Brian Horton, a middle-aged wizard decides to reanimate his dead father for the heart-to-heart chat they never had when Dad was alive. Needless to say, the procedure is curiously unsatisfying for the son.

Finally, my favorite tale: "Let Sleeping Dogs Lie," by scripter Evan Dorkin and artist Jill Thompson. This adventure of a pack of mundane dogs who happen in their secret lives to be a canine *X-Files* squad is part of a series that Dorkin and Thompson are doing, and they hit the mark every time. The mix of doggy logic and feelings with occult McGuffins never fails to charm. And did I mention a feline evildoer as well?

Handsomely presented (the endpaper etching is a nice touch), thoughtfully assembled, and modestly priced, this book is a perfect showcase for the immense talent within.

### Resurrecting Wellman

I love SF from the thirties and forties, especially the overlooked gems still moldering in the pages of oldazines. The best of this work possesses an insane bravura zest for ideation and action that's all too often missing from today's more cerebral, mannered, and rational works.

Readers like me can now get a whopping dose of such thrills, thanks to Night Shade Press and its revival of the work of Manly Wade Wellman (1903-1986). A consummate pro who wrote in all genres, Wellman had a long career and his output includes lots of lost gems.

We've already had five massive volumes reprinting many of Wellman's short stories in thematic groupings. Now come two books more, each featuring a novella and a short story.

*Giants from Eternity* (hardcover, \$25.00, 158 pages, ISBN 1-892389-96-7) features the short novel "Giants from Eternity" (originally published in *Startling Stories* in 1939) and "The Timeless Tomorrow" (*Thrilling Wonder Stories*, 1947). We'll discuss the latter first, since it's the lesser.

We're back in the year 1547, watching over the shoulder of Nostradamus as he writes his famous prophecies, which are brought to him thanks to a genuine ability to see the future. A woman named Anne convinces Nostradamus to extend his powers to actually dip physically into the timestream and change some of the events he witnesses. The story concludes with a vision of 1947, making our world seem a veritable hell to the Renaissance mind.

Nostradamus's verses are deftly woven into the tale, and the characterization and pacing is intriguing. A charming and poignant little story.

But "Giants from Eternity" is something else altogether. It's a badass super-science tale that barrels along like a Tom Swift rocketship, mixing Lovecraftian riffs (specifically, from "The Colour Out of Space") with Julian Huxley bio-speculations and Campbellian lone genius derring-do.

A strange meteor falls to the earth in Kansas, discharging a deadly organic substance that begins consuming everything in its path. Soon, many square miles of territory are covered in this alien monoculture, a seething scarlet plain of death. Oliver Noll Norfleet, boy genius, his sar-

donic buddy Spencer DuPogue, and beautiful government agent Caris Bridge are the world's only hope against eventual total inundation by the plague.

The first thing Norfleet does is use the plague itself to create a revivifying tonic that can literally bring back the dead from any scrap of their substance. He promptly resurrects famous scientists—Pasteur, Newton, Darwin, Edison, and Madame Curie—to help in the battle. DuPogue dies in a lab accident and is brought back to life as well. The alien substance begins to exhibit intelligence. DuPogue goes over to the dark side. The famous scientists begin to decay. Bridge and Norfleet fall in love. And so on, to the rousing climax. (And I'm leaving a lot out here.)

Wellman rollicks along in blithe fashion, never parodic, always taking his wild premises seriously but not in any way dull. The writing is top-notch, with surprising hints of poetry: "... the silenced guns coughing croupily." Brilliant!

The way this story prefigures the film *The Blob* (1958), as well as Charles Sheffield's "Out of Copyright" and Greg Bear's *Blood Music* (1985) is uncanny, proving there's nothing new under the sun.

If you don't get your full complement of sensawunda from this tale, you've been tamed and declawed by too much literary canoodling.

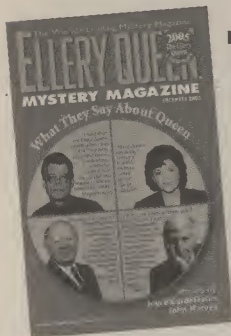
The two items in *Strangers on the Heights* (hardcover, \$25.00, 157 pages, ISBN 1-892389-95-9) are of nearly equal length, and of nearly equal merit. The first piece, which gives its title to the volume, appeared in a 1944 issue of *Startling Stories*. The second tale, "Nuisance Value," saw publication first in *Ashtounding*, split in two parts running through 1938 and 1939.

"Strangers on the Heights" begins at an American college, where three older students form a bond of friendship. Will Gardestang, Tommy Gatchell, and Rico Challoner find each other simpatico, being more mature than the younger students. Naturally, then, when Rico suddenly dies in a seemingly occult fashion, the remaining chums are motivated to journey to his home country of Chile to investigate. There, they meet Rico's beautiful sister, Theolinda, and a fellow spook-chaser named Dr. Parr. Gatchell and Gardestang learn of a mysterious evil cult to which Rico once belonged, before experiencing a change of heart. Led by a fellow named Eaker, this cult worships malign living deities known as the Others. Tussling several times with Eaker and his cronies, the Americans eventually come face to face with the Others, who prove to be alien invaders living atop the highest peak of South America, Mount Cachacamool. Now the chums are set to take the final battle to the home territory of the aliens.

The sense of ancient conspiracies and unhuman intelligences that Wellman conveys here brings to mind work by Philip José Farmer and Colin Wilson. Piling one outrage revelation atop another at breakneck speed, Wellman hustles the reader up a steep staircase of marvels, culminating in an overturning of expectations as to the motivation of the Others. The never-say-die heroism of Gatchell, Gardestang, Theolinda, and Parr recalls the verve exhibited by such comic-book heroes as the Challengers of the Unknown, and in fact the Challs' motif of living on "borrowed time" is also found here. This tale just zips along blithely and excitingly from one bang-up battle to another.

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C5C-NZQDLL

"Nuisance Value" exhibits a further range to Wellman's skill-set, being an invasion-of-Earth saga. Fifty years after snail-like aliens from the moons of Jupiter have subjugated humanity, a young man named Mark Darragh vows to liberate the planet. Venturing into the fortresses of the invaders, he uncovers their weaknesses, rouses his people, and embarks on a guerrilla war fated to succeed after some twenty years (as an epilogue informs us).

The fluxity in real-world science of this era, when dominant physical paradigms were being overturned daily, allows for lots of wild science such as "ray mechanics." The typical pulp plot construction of plunging the protagonist into ever deeper holes serves the story well. And, as before, Wellman's descriptive writing is top-notch. Here's how the Cold Ones perambulate: "... moving by a hitch-and-hunch upon a rubbery pedestal. ..." I can see them before me now!

Breaking the thematic ground for successors such as Thomas Disch, William Tenn, and Eric Frank Russell, Wellman plainly derives as much fun from the writing of this tale as we do from the reading of it.

Besides simply re-presenting this glorious work for us, the Night Shade folks do it in handsome form. Their books are sturdy, well-designed artifacts, and the cover art—by Vincent Di Fate and Colleen Doran—really does justice to the fiction.

Buy these books, and you'll have your own ticket to SF's frontier past.

### Reprise, Rethink, Rewards

The desire to recreate—for oneself and for others—the pleasures associated with one's earliest joyful reading experiences is a stronger motiva-

tion for the professional writer than is often acknowledged. I know that I myself have begun composing many a story with no more impetus than the desire to re-experience anew the thrills I derived from reading, say, Phil Dick or Brian Aldiss or Andre Norton.

Damien Broderick says as much in the afterword to his new novel, *Godplayers* (Thunder's Mouth Press, trade paperback, \$14.95, 328 pages, ISBN 1-56025-670-2): "Nostalgia is a virtue oddly overlooked in most moral catalogs. For the traditional science fiction fan, it's an unlikely key to the fullest enjoyment of this fertile mode of storytelling." After lamenting that much of the original inspirational seed material he worshipped and which newer generations might also find stimulating is out of print, Broderick goes on to distinguish between mere sterile pastiche and truly creative reworkings. "But it's also true that traditions need refreshing, as those good writers and their peers, forty or sixty years ago, renewed the imaginative narrative forms bequeathed by both science and fiction of SF's Golden Age."

Judging Broderick's novel by his own impeccable standards—and recall that Broderick is also a critic of note, able to apply way-above-average intelligent forethought to his own writing—I have to say that he's fulfilled his mandate wonderfully. Here we have a book that harks back to certain classic works with as much vigor as the originals, yet which also lays a fresh foundation for the nostalgic narrative superstructure.

I'm not sure that there's a one-word genre label for the kind of story Broderick is building here, but it's a familiar trope. The most famous series to employ this template is Zelazny's *Amber* books: an unsuspect-

ing average Joe on our Earth discovers he's one of the privileged heirs of the multiverse. (Note that Charles Stross's new series, *The Merchant Princes*, derives from this same model. Must be steam-engine time.) Broderick also explicitly cites Fritz Leiber's *Destiny Times Three* (1956) as an influence. I suspect he's well aware of, but omitting, Philip José Farmer's glorious *World of Tiers* cycle. We might toss in Laumer and van Vogt on general principles. And lastly, I'd posit Heinlein's *Glory Road* (1963) as a seminal instance of this trope, lurking somewhere in Broderick's hindbrain.

Given these heady, heroic forebears, Broderick's book is going to have to be mighty fine stuff to join their ranks. And it is.

August Seebeck is a young man of no particular ambition. (His Earth, by the way, turns out to be not precisely ours.) His parents, Angelina and Dramen, died in a plane crash some years ago, leaving him under the care of his great-aunt Tansy. One night at Tansy's, mysterious intruders carrying a corpse invade the Seebeck bathroom via an interdimensional doorway known as a Schwelle. August tangles with them, but they escape. His life is now perturbed out of all normality.

To simplify a complicated and thrilling series of events: August eventually discovers that he has many brothers and sisters, and that his clan has the power to jump among the strands of the multiverse. They are engaged in a vast Contest against opponents known as the K-Machines, the prize being nothing less than the right to determine cosmic evolution.

At first, August is all at sea, as he is whisked by his kin—"lunatic demigods"—from one baffling venue to another. (He's never helpless,

though, always opting for bold and clever tactics.) After a time, he assumes his rightful place in the family trade, becoming master of the legendary Vorpall Sword. The stage is set for further adventures, in a sequel to be titled *K-Machines* (Spring 2006).

Broderick does many fine things here. He crafts a style, like Zelazny's, that blends colloquialisms, high diction, and scientific jargon in equal measures. His dialogue is always crackling, funny, and informative. His characterizations of the various Seebecks is clear-eyed and individually distinctive. His plotting is hurly-burly yet vectored toward ultimate revelations. He has a lot of fun alluding to past classics of SF. (A sect that espouses "Valisology" is known as the "Fat Boys," after PKD's alter-ego Horselover Fat.)

But possibly the best, most important thing here is how he underpins his action and concepts with solid scientific and philosophical chunks from cutting edge information theory, cosmology, physics, and biology. A talented but less scrupulous writer might have come up with this concept and plot, but set it down on a foundation of sand. Broderick ensures that the ideational density is there to support the action and increase its plausibility.

Any reader who wishes his or her own life could crack open into a realm of glorious adventuring among unlimited possibilities—and isn't that practically the definition of all fiction fanatics?—will find in this book the fulfillment of their wildest daydreams.

### White Blanket Over the Earth

It's an inexplicable, criminal shame that none of Adam Roberts's novels

are available in US editions. In fact, the only one of Roberts's eight books issued to date in a domestic edition is his short-story collection, *Swiftly* (Night Shade Press, 2004). This means that US readers are missing out on *Salt* (2000), the tale of an ideological interstellar colonization effort; *On* (2001), in which gravity goes wonky; *Stone* (2002), a dark space opera; *Polystom* (2003), a kind of skewed steampunk; and two novellas, *Park Polar* (2001) and *Jupiter Magnified* (2003). Each of these has been a unique treat, rich, well-crafted, provocative, memorable, and full of thought.

True, dedicated US readers can still get these books fairly easily from Amazon UK. But at some extra cost. And no bookstore browser in the US will ever have the pleasure of stumbling upon Roberts's work in a serendipitous fashion. Nor will most US media outlets review him.

All of the foregoing sad details apply to his latest as well, *The Snow* (Gollancz, hardcover, £17.99, 297 pages, ISBN 0-575-07180-X). Once again, US audiences are being deprived of a magnificent read.

One day in the near future it begins to snow. And it simply doesn't stop. Soon the entire surface of our planet is buried several miles deep in white stuff.

From this simple premise—notably less arcane than that of, say, *On*—Roberts builds a tale of emotional and physical struggle for survival in the grand tradition of the British disaster novel. Think of *The Day of the Triffids* (1951), or *On the Beach* (1957), or any of Ballard's early books. But this novel is also completely contemporary in its themes of political freedom in a terrorist age, and in its depiction of mankind's precarious place in the cosmic ecology.

Roberts's vehicle for telling his tale is a deeply drawn average woman named Tira. Her first-person narrative—sometimes in the form of redacted documents, which are interspersed with other official material—carries us from the first days of the disaster to the society that is cobbled together in the years when the snow finally stops, and all the way to twenty years beyond that.

Tira's above-average sensitivity and brusqueness of character make for a fascinating narrator. She's unwilling to accept the situations and positions that others try to limit her to, and it's this stubborn perseverance to live freely that drives her and the plot. Roberts does not paint these qualities as unmitigated virtues, however, since they lead Tira into dire situations.

The main theme of the book can perhaps be found in Tira's pointed observation: "I sometimes think that a human being is a machine designed to take the extraordinary and make it ordinary, habitual, banal." The grand civilization that preceded the snow, with all its liberties and privileges and comforts, was never appreciated by the mass of mankind. Likewise, the equally titanic collapse is rendered bathetic by the persistence and expansion of a piddling bureaucracy run by blinkered military men. Roberts is at his finest depicting the insane rigmarole that passes for intelligence in this new scenario.

But he does not neglect one of the finest attributes of the disaster novel: estrangement. Consider this passage, which relates the popularity of videos of the buried world.

Some videos were made—freaky things, really. They were, effectively, films of the life you

remember, only yellowed and gloomy in white-walled tunnels. I understand they cleared the bodies away before shooting the videos, but the Pompeian evidences of death-interrupted lives were all around. To follow the miner, vicariously, video-linked, through these bizarre tunnels . . . to watch the TV footage of men trudging down nondescript shafts and turn a corner to see a shopfront, a house, and to realize that this strange, urinous-colored stubble underneath their feet had once been green grass, that this oddly short metal fence was actually the radiator grille of a car still almost wholly buried in the snow. It was spooky.

Roberts also utilizes snow (and the clouds from which snow descends) in many metaphorical ways, as when he has a character recall his past addiction to cocaine: "I was just dying under a massive drift of the white powder, crushed and killed and buried and dead." This literary flair is typical of Roberts's finely crafted prose in all his books.

In the book's coda, Tira recognizes that civilization is on the mend: "Yesterday I read a new science fiction novel, a sure sign that things are increasingly returning to some sort of pre-Snow normality."

I'll think better of our own civilization's prospects when Adam Roberts is published in the US.

### **Prodding, Listening, Transcribing**

The qualities that go into the character of a fine interviewer are many and various, as well as contradictory.

Interviewers must be tenacious, yet know when to let a dead-end question go. They must direct the dialogue, yet also allow it to roam down unplanned paths. They must consistently ask certain important universal questions of everyone, yet tailor many of their questions specifically to the individual. They must be engaged and intimate with their subjects, yet also aloof. They must be respectful yet also bold, fans yet also investigative journalists.

All in all, an expert savvy interviewer is a rare beast.

Jayme Lynn Blaschke is just such a paragon, as illustrated by his excellent collection of interviews titled *Voices of Vision* (Bison Books, trade paper, \$14.95, 194 pages, ISBN 0-8032-6239-6). Many of these first appeared online or in *Interzone*, yet are here expanded or otherwise modified, making these the essential versions of these pieces.

Blaschke divides his book into four sections: one on editors, one on "unique [newer] voices" in SF, one on comics creators, and one on "masters" of the form. In each section, he follows certain recurring threads while winking out the essential uniqueness of each interviewee. He exhibits a depth of knowledge about each subject's career and oeuvre, and a willingness to learn on the fly. Whether discussing twenty years of editing with Gardner Dozois, the history of Green Arrow with Brad Meltzer, or *Babylon 5* with Harlan Ellison, Blaschke displays reverence, passion, and curiosity. He manages to elicit quotable moments from everyone, and dredges up insightful aperçus from such interesting folks as Gene Wolfe, Jack Williamson, Samuel Delany, and Charles de Lint. About the only thing missing from this stimulating salon-on-paper is

an index. But most of the talk is so memorable, you can probably compile one easily in your head.

## Do-overs for the Doones

SF novels that feature parallel milieus and parallel narratives that eventually map onto each other in curious intersections are an honorable and fascinating tradition. Ideally, each set of events, each set of characters, each environment plays off meaningfully against the other, establishing ironic, weird, and affecting correspondences. I can't say I'm a big fan of Stephen King, but I enjoyed that aspect of the two *Dark Tower* books of his that I managed to read somewhat more than I enjoyed the rest of his tedious, bloated tale.

King's shortcomings are made even more clear when a truly gifted author works in this vein. That's the case with Paul Witcover's *Tumbling After* (Eos, hardcover, \$24.95, 328 pages, ISBN 0-06-105285-X), the elegant, haunting story of startling events in our mundane world and even more outré ones in the cosmos next door.

Or is it?

Let's examine the brother and sister stories.

Jack and Jilly Doone are twelve-year-old twins in the year 1977. They're staying at a Delaware beach house one summer with their older sister Ellen and the adult in charge, their Uncle Jimmy. (The Doone parents pop in and out as work allows.) One day Jack nearly drowns, being rescued in the nick of time by his sister. Or rather, he comes to believe, he actually did drown, and some strange power resurrected him, shifting his consciousness onto a different, more

favorable timeline. (Shades of Le Guin's *The Lathe of Heaven* [1971] and certain Greg Egan stories.)

As the summer progresses, Jack gets more and more evidence that his theory is true. The world skips a beat several further times, before re-settling into a more Jack-friendly groove. Of course, all of this mysterious action is nearly overshadowed by more quotidian matters, such as the potent incestuous sexual stirrings between the siblings, as well as the situation between Ellen and Uncle Jimmy.

Youngish Uncle Jimmy is a bit of a rogue. He smokes pot (which he shares with Ellen) and he's a game designer. His latest creation, which he almost forces the children to field-test, is called *Mutes and Norms*. In this gameworld, a postapocalyptic Earth boasts five mutant races whose members create "pentads" that function as gestalt personalities. The Mutes are locked in a war against the Norms. But they're also struggling against a mutant elite that rules their lives according to stochastic formulae.

This happens to be both a Jimmy-designed board game and the exceedingly tangible world that also hosts the parallel narrative. (Jimmy's role as possible demiurge is a further complication for Jack.) We witness up close and first-hand the formation of a novice pentad, through the eyes of a young "airie" named Kestrel. Kestrel and his four mates will eventually take part in historic developments that will change their world forever.

As the two narratives proceed, the parallels between Kestrel's life and Jack's accumulate, until finally each youngster reaches a decisive crisis. Jack flubs his, while Kestrel triumphs.

As a neatly braided duology, the two narratives function perfectly. But Witcover also leaves open the alternate interpretation alluded to above: that all of Kestrel's world might merely be a crazed delusion on Jack's part. I tend not to favor this interpretation, as it undercuts any salvation for the characters, but it's still neat of Witcover to have constructed this trapdoor.

Witcover excels at rendering each world in its own most appropriate style. The world of the Mutes is all comic-book brio and action. (Witcover, who once penned comics himself, alludes to comics more than once as a touchstone. You might think of Kestrel and his crew as Marvel-style Inhumans.) And the "mundane" world that Jack and Jilly inhabit is

limned with aching, Crowleyesque delicacy and insight. For instance, when Jilly's tanned, sweaty face is described as a golden mask with drops of condensation on it, the metaphor is perfect for the circumstances. The period details of the era are neatly chosen as well: when else but in 1977 could a Peter Frampton song trigger a minor epiphany? And despite the transgressive nature of the twins' sexuality, Witcover never leers or points a finger, but instead inhabits their desires like a non-judgmental deity.

This novel seems to have been deposited in our world by the same kind of procedure that rescued Jack from drowning: a supreme mental effort to hunt down the finest instance of any Platonic object. ○

#### Solution to Science Fiction Sudoku from page 6:

N	A	E	S	M	I	Z	F	G
S	G	Z	F	A	N	I	M	E
I	F	M	Z	G	E	N	A	S
E	S	F	N	I	A	M	G	Z
Z	M	G	E	F	S	A	I	N
A	I	N	G	Z	M	E	S	F
F	N	I	M	S	Z	G	E	A
M	Z	S	A	E	G	F	N	I
G	E	A	I	N	F	S	Z	M

S F M A G A Z I N E

# SF CONVENTIONAL CALENDAR

**L**ots coming up on Presidents' Day weekend; take a winter break. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, info on fanzines and clubs, and how to get a later, longer list of cons, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22-L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons), leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con 6 months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard.—Erwin S. Strauss

## FEBRUARY 2006

- 9-12—CapriCon. For info, write: Box 60085, Chicago IL 60660. Or phone: (973) 242-5999 (10 AM to 10 PM, not collect). (Web) [capricon.org](http://capricon.org). (E-mail) [info@capricon.org](mailto:info@capricon.org). Con will be held in: Arlington Hts. (Chicago) IL (if city omitted, same as in address) at the Sheraton. Guests will include: Peter Beagle, Michael Longcor, Mary Crowell, B. Palaszewski.
- 17-19—Boskone, Box 809, Framingham MA 01701. (617) 625-2311. [boskone.org](http://boskone.org). Sheraton, Boston MA. Ken MacLeod.
- 17-19—Life, the Universe, & Everything, 3146 JKHB, Provo UT 84602. [ltue.byu.edu](mailto:ltue.byu.edu). [ltue@byu.edu](mailto:ltue@byu.edu). BYU campus.
- 17-19—RadCon, 2527 W. Kennewick Ave. #162, Kennewick WA 99336. [shawnpack@yahoo.com](mailto:shawnpack@yahoo.com). Red Lion, Pasco WA.
- 17-19—Farpoint, 11708 Troy Ct., Waldorf MD 20601. [farpoint.com](http://farpoint.com). Marriott, Hunt Valley (Baltimore) MD. Media SF.
- 17-19—VisionCon, Box 1415, Springfield MO 65801. (417) 886-7219.
- 17-19—Gallifrey, Box 3021, N. Hollywood CA 91609. [gallifreyone.com](http://gallifreyone.com). Los Angeles area. Dr. Who.
- 17-19—KatsuCon, Box 7064, Silver Spring MD 20907. [katsucon.org](http://katsucon.org). Omni Shoreham, Washington DC. Anime.
- 24-26—NonCon, Box 3817, Vassar College, Poughkeepsie NY 12604. [noncon.net](http://noncon.net). On campus. Gaming emphasis.

## MARCH 2006

- 3-5—CoastCon, Box 1423, Biloxi MS 39533. (228) 435-5217. Mississippi Coast Convention Center.
- 11-12—PhoenixCon, Yellow Brick Road, 8 Bachelor's Walk Dublin 1, Ireland. Ashling Hotel. S. Clarke, Greenland.
- 15-19—IAFA, Box 10416, Blacksburg VA 24062. [iafa.org](http://iafa.org). Airport Wyndham, Ft. Lauderdale FL. Academic conference.
- 17-19—LunaCon, 847-A 2nd Ave. #234, New York NY 10017. [lunacon.org](http://lunacon.org). Sheraton, E. Rutherford NJ (near NYC).
- 24-26—iCon, Box 550, Stony Brook NY 11790. [iconsf.org](http://iconsf.org). State University of New York. Big, on-campus con.

## APRIL 2006

- 13-16—Frolicon, 1011 Kinsey Dr., Huntsville AL 35803. [frolicon.org](http://frolicon.org). Crowne Plaza, Atlanta GA. Over 18 only.
- 13-16—EuroCon, 10 Hill St. #22L, Newark NJ 07102. (380-44) 455-3575. [eurocon.kiev.ua](http://eurocon.kiev.ua). Kiev Ukraine. Poyarkov.
- 14-16—NorWesCon, Box 68547, Seattle WA 98168. (206) 270-7850. [norwescon.org](http://norwescon.org). Info@[norwescon.org](http://norwescon.org).
- 14-16—MiniCon, Box 8297, Minneapolis MN 55408. [mnstf.org](http://mnstf.org).
- 14-17—UK National Con, Box 64128, Sunnyvale CA 94088. (650) 722-1413. [eastercon2006.org](http://eastercon2006.org). Glasgow Scotland.
- 21-23—EerieCon, Box 412, Buffalo NY 14226. [info@eeriecon.org](http://info@eeriecon.org). Days Inn, Niagara Falls NY. Turtledove, Huff.
- 21-23—RavenCon, 8600 Queensmere Pl. #2, Richmond VA 23294. [ravencon.com](http://ravencon.com). T. Brooks, T. Kidd, the Gillilands.
- 21-23—Malice Domestic, 703 Kenbrook Dr., Silver Spring MD 20902. [malicedomestic.org](http://malicedomestic.org). Arlington VA. Mysteries.

## MAY 2006

- 26-29—BaltiCon, Box 686, Baltimore MD 21203. (410) 563-2737 [balticon.org](http://balticon.org). Marriott, Hunt Valley (Baltimore) MD.
- 26-29—CostumeCon, Box 7572, Des Moines IA 50323. [cc24.dmsfs.org](http://cc24.dmsfs.org). Hotel Fort Des Moines. Big masquerader meet.

## AUGUST 2006

- 23-27—LACon IV, Box 8442, Van Nuys CA 91409. [info@laconiv.com](http://info@laconiv.com). Anaheim CA. Connie Wills. The WorldCon. \$150+.

## AUGUST 2007

- 30-Sep. 3—Nippon 2007, Box 314, Annapolis Jct. MD 20701. [nippon2007.org](http://nippon2007.org). Yokohama Japan. WorldCon. \$160+.

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## ANNOUNCEMENTS

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# NEXT ISSUE

## APRIL/MAY DOUBLE ISSUE

Our mammoth April/May Double Issue is jammed with stuff by both Hot New Writers and some of the Biggest Names in the business! Popular new writer **Paul Melko**, last seen here with stories such as "Strength Alone" and "The Summer of the Seven," returns next month with our lead story for April/May, a fast-paced and compelling novella that casts a provincial farm boy adrift on the infinite sea of varying possible worlds with no way home, and no choice but to force himself against "The Walls of the Universe" and see what he can find there to call his own. This one's a fascinating trip, so don't fail to take it!

## ALSO IN APRIL/MAY

Multiple Hugo- and Nebula-winner (and recently named Grandmaster) **Robert Silverberg** invites us along on a Grand Tour to a strange place inhabited by strange people (from our provincial twenty-first century perspective, anyway!) as "Hanosz Prime Goes to Old Earth"; new writer **Greg van Eekhout** takes us to a world where dangerous magic is in your very bones, at least if you are "The Osteomancer's Son"; popular author **Mary Rosenblum** sends us on a dangerous and intrigue-filled mission to take some extremely valuable "Home Movies"; new writer **James Maxey** returns to plunge us into the slam-bang world of superheroes, which turns out to be a more complicated place than you'd think, as we follow "The Final Flight of the Blue Bee"; **R. Neube** gives us a disquieting vision of a hardscrabble future society where most human lives are "Not Worth a Cent"; **Wil McCarthy** enrolls us in "Heisenberg Elementary," although we may be a bit uncertain about it; new writer **Constance Cooper** makes an *Asimov's* debut that spins webs of intrigue and counter-intrigue around "The King's Tail"; hot British writer **Liz Williams** whisks us to a bizarre far-future Mars to play a deadly game of tag with ghosts and lethal scissor-women during "The Age of Ice"; **William Shunn**, making his *Asimov's* debut, demonstrates that an ignorant young boy can discover whole new worlds once he learns to see things with the proper "Inclination"; Hugo and World Fantasy Award-winner **Kristine Kathryn Rusch** haunts us with the tale of a man who is gradually stripped of everything "Except the Music"; and new writer **Steve Bein** makes his *Asimov's* debut by launching us on a suspenseful mission to commit "Datacide."

## EXCITING FEATURES

**Robert Silverberg's** "Reflections" puts some time into "Tracking Down the Ancestors"; **Norman Spinrad's** "On Books" examines "Aussies, Brits, and Yanks"; and, in our Thought Experiment feature, our own **Brian Bieniowski** explores the aural delights to be found on "A Possible Planet: SF and Electronic Music"; plus an array of letters, poems, and other features. Look for our April/May Special Double Issue on sale at your newsstand on March 7, 2006. Or subscribe today and be sure to miss none of the fantastic stuff we have coming up for you this year (you can also subscribe to *Asimov's* online, in varying formats, including in downloadable form for your PDA, by going to our website, [www.asimovs.com](http://www.asimovs.com)).

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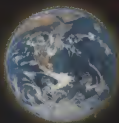
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